DOCUMENT RESUME

ED 029 593 HE 000 824

Proposal for Progress: Guidelines for State Policy and Comprehensive Planning of Post-Secondary Education.
Minnesota Higher Education Coordinating Commission, St. Paul.
Pub Date Jan 69
Note-101p.
EDRS Price MF-$0.50 HC-$5.15
Descriptors-Coordination, *Educational Planning, *Educational Policy, Financial Needs, *Higher Education, *Planning, *State Action, State Agencies
Identifiers-*Minnesota

Designed as the basis for continuous planning in the area of higher education in Minnesota, this report utilizes research generated by the Commission's comprehensive data collection system. It aims to: project needs, assess the current status and future directions of higher education in Minnesota, clarify the role of each of the components in the higher education system, recommend basic state policies, and identify areas that should receive special attention. Discussions, enhanced by figures, cover: present and projected enrollments, academic programs, location of institutions, recommendations for new institutions, the need for a metropolitan area study, interstate cooperation, counseling facilities, financial needs, teaching, research and public service functions, productivity, professional personnel, instructional costs, the structure of higher education in Minnesota, and funding. The Appendices contain a report on manpower needs, a review of new programs and suggestions for coordination, and information on faculty salaries and library resources. Proposals for establishment of new junior colleges, for a program change at the Southern School of Agriculture, Waseca, for the metropolitan area study, and for a Minnesota-Wisconsin Higher Education Agreement are also included. (JS)

ED029593

COMPREHENSIVE PLAN

MINNESOTA
HIGHER EDUCATION COORDINATING COMMISSION

HE 000 824

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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PROPOSAL FOR PROGRESS

GUIDELINES FOR STATE POLICY AND COMPREHENSIVE PLANNING OF POST-SECONDARY EDUCATION

JANUARY 1969

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PROPOSAL FOR PROGRESS

Guidelines for State Policy and Comprehensive Planning of Post-Secondary Education

MINNESOTA HIGHER EDUCATION
COORDINATING COMMISSION

Suite 400 Capitol Square
550 Cedar Street
St. Paul, Minnesota 55101

January 1969

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PREFACE

In addition to administering several statewide post-secondary education activities, the Minnesota Higher Education Coordinating Commission was charged by the 1965 Legislature with responsibility to "continuously study and analyze all phases and aspects of higher education, both public and private, and develop necessary plans and programs to meet present and future needs of the people of the state in respect thereto," and "continuously engage in long-range planning of the needs of higher education and, if necessary, cooperatively engage in such planning with neighboring states and agencies of the federal government" (Minnesota Statutes 136A). In keeping with this legislative charge, the Commission views planning as a continuous process which must be based upon a comprehensive program of research. The Commission also recognizes the need for planning to be conducted in the context of an explicit philosophy.

Proposal for Progress reflects these views of planning. It is designed to provide the foundation for continuous planning rather than to provide final solutions to all problems; it is consistent with an explicit philosophical statement as presented in *A Philosophy for Minnesota Higher Education,* published by the Commission in March of 1968; and it is based upon research emanating from a comprehensive data system established by the Commission during the past two years.

While this report does contain some definitive recommendations on specific problems, these are somewhat ancillary to the primary purposes of projecting future needs, assessing the current status of post-secondary education in Minnesota, clarifying the role of each of the several components in the total pattern of post-secondary education, recommending basic state policies for post-secondary education, identifying some areas which need to be given special attention, and pointing general directions for post-secondary education. As the foundation for continuous planning, the report can provide a useful framework for future decision-making.

Proposal for Progress is a summary document which is not intended to report all of the thinking and discussion which went into its preparation, nor the alternative recommendations which were considered. Moreover, no attempt has been made to report all of the data and findings of the research effort which has provided the basis for the report.

Many of the research findings of the Commission are reported in a series of planning documents which are supplementary to *Proposal for Progress* and which provide considerably more detailed information. Two planning reports in addition to *A Philosophy for Minnesota Higher Education* were published prior to this report. *Planning Re-*

port 2: Population and Student Enrollments in Minnesota Higher Education, which was published in September, presents an assessment of population and enrollment trends and projection of enrollments through the year 2000. *Planning Report 3: Student Enrollments in Minnesota Higher Education,* which was published in October, contains detailed analyses of 1967-1968 enrollments, origin of students by residence, and migration of students to and from Minnesota.

Two additional planning reports are being published concurrently with *Proposal for Progress. Planning Report 4: Professional Personnel in Minnesota Higher Education* contains information on the numbers, functions, characteristics, assignments and salaries of faculty and administrative personnel. *Planning Report 5: Current Operating Revenues and Expenditures in Minnesota Higher Education* presents an analysis of the finances of current operations.

Planning reports which present research findings in at least two additional areas will be prepared for publication soon. One will present an analysis of physical facilities and space utilization in public and private institutions and another will be concerned with program offerings.

It should be noted that the Commission considers its charge to include all public and private post-secondary education, including vocational and technical schools. The terms "post-secondary education", and "higher education" are used interchangeably with no distinction between the two intended. The terms "college" and "university" are not intended to include vocational education which is offered by other than degree granting institutions.

Preparation of this document and the several related planning reports would not have been possible without the excellent cooperation of officers of Minnesota's public and private institutions who supplied data for the Commission's research program.

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MAJOR FEATURES OF THE PROPOSAL

The content of *Proposal for Progress,* which itself is a summary report, cannot be readily condensed. The reader who has more than a passing interest in the future of Minnesota post-secondary education is urged to read the entire report which has been intentionally kept brief. Major features of the proposal are presented in outline form below for the convenience of the reader who wishes an overview of the report.

I. Future social and economic progress of Minnesota and its residents will depend heavily upon the extent to which the expanding needs of both the State and the individual for post-secondary education are fulfilled.

A. Meeting the expanding needs will require accommodating 90,000 more post-secondary students by 1980 than were accommodated in 1968-1969, an increase of 62 per cent. Enrollments will reach 271,400 by the year 2000.

B. Largest numerical enrollment increase will occur in the first two years after high school, but the greatest rate of increase will occur at the post-baccalaureate degree level.

II. Minnesota institutions should continue to accommodate a high percentage of all Minnesota residents who pursue post-secondary education as well as a reasonable number of students from other states.

A. Future policies on admission of out-of-state students should be designed to maintain balance between the number of Minnesota residents who attend post-secondary institutions in other states and the number of students from other states who are educated in Minnesota.

B. In admitting out-of-state students, first priority should be given to students covered by reciprocity agreements. In admitting students which are not covered by reciprocity agreements, preference should be given to graduate students.

III. Post-secondary education opportunities should be made more readily available and accessible to Minnesota residents.

A. It should be the policy of the State to make state-supported instructional programs in all areas of study and at all levels of instruction as geographically accessible to all residents of Minnesota as is consistent with (1) maintenance of high quality, (2) economy of effort, and (3) the judicious use of resources to meet total needs for post-secondary education.

B. The following general guidelines on establishing and supporting new post-secondary institutions should become the policy of the State:

1. A public post-secondary institution should be located within 35 miles of every Minnesota community with a population of 5,000 or more.

2. A public institution which offers the first two years of collegiate studies leading to a baccalaureate degree should be located within 20 miles of every Minnesota community with a population of 10,000 or more.

3. When the peculiar characteristics of an area clearly indicate the desirability of establishing and supporting institutions in addition to those established and maintained through implementation of guidelines 1 and 2, the determination to establish additional institutions should be based upon the special intensity and extent of need in the area and should be considered in the context of the total needs of the state for post-secondary education.

C. The 1969 Legislature should (1) confirm the tentative designation by the 1967 Legislature of Fairmont as the location for a new state junior college and (2) designate the following additional five communities (listed in alphabetical order) as locations for new state junior colleges:

a. Alexandria

b. Cambridge

c. Hutchinson

d. New Ulm

e. Owatonna

D. The secondary program of the Southern School of Agriculture should be phased out in an orderly manner and replaced with post-secondary programs of study of two years or less leading to appropriate agriculturally-related degrees.

E. In order to provide for adequate analysis of the special needs and problems associated with post-secondary education in the Twin Cities Seven-County Metropolitan Area, the Commission requests a special appropriation of $50,000 by the 1969 Legislature to finance a thorough study of needs and alternative solutions for post-secondary education in the Seven-County Metropolitan Area.

F. In order that progress not be delayed, $500,000 should be appropriated by the 1969 Legislature to an appropriate agency for the purpose of developing new institutions and/or expansion of existing institutions in the Seven-County Metropolitan Area.

The agency so designated as custodian of the appropriation should be empowered to make allocations from the appropriation to the Board of Regents, the State College Board, and/or the State Junior College Board for immediate implementation of the Commission study recommendations.

G. The policy seeking to improve the availability and accessibility of advanced educational opportunities to Minnesota residents through reciprocity agreements with neighboring states, as established by the 1967 legislature, should be continued and extended to include post-secondary vocational education.

IV. Barriers which deter some Minnesota residents from post-secondary education should be removed and all residents should be given appropriate encouragement to pursue post-secondary education.

A. Guidance programs should be strengthened to provide effective counseling and information services for all secondary and post-secondary students.

B. The Minnesota State Scholarship Program should be substantially expanded as rapidly as possible and sufficient funds should be appropriated to provide financial assistance for at least 1,200 new recipients of Minnesota State Scholarships per annum during the next biennium which, including renewals, will require an appropriation of $2,750,000 for the biennium.

C. In order to facilitate and encourage disadvantaged students to pursue post-secondary education, the 1969 Legislature should establish a state program of grants to be awarded solely on the basis of financial need to disadvantaged Minnesota youth for the purpose of attending a public or private institution of the student's choice; the grants program should be started with an initial appropriation of $600,000 during the next biennium.

D. Every public institution of higher education should be authorized to waive tuition for financially disadvantaged students when the institution has available funds to cover the cost of their instruction.

V. In all future planning and budgeting, the transmission of knowledge through teaching, the extension of knowledge through research, and the application and diffusion of knowledge through public service must be recognized as interrelated functions of higher education, all three of which require effective performance for meeting the total needs of the state post-secondary education.

VI. While Minnesota colleges and universities are generally effective and perform especially well in terms of productivity and economy, the need for improvement on some factors associated with quality is evident.

A. It should be the policy of the State to provide post-secondary education of the highest quality which is feasible and all policies, plans, and programs should be developed and maintained accordingly.

B. In order that Minnesota may attract and retain faculties of high quality, it should be the policy of the State to establish and maintain faculty salaries at the levels necessary to enable all Minnesota public institutions to rank not lower than the median of those institutions in the upper one-half of national distributions of the median salaries of institutions of similar type; complete implementation of this policy will require salary increases of 34 per cent for the University of Minnesota, 32 per cent for the state colleges, and 29 per cent for the state junior colleges next year.

C. In order to provide the minimum library resources necessary for adequate quality in public institutions, (1) the library of the University of Minnesota should continue to be strengthened in order that the greatest source of scholarly materials and recorded knowledge in the state may be continuously improved and (2) a deficiency of approximately 600,000 volumes in the state colleges and 150,000 volumes in the state junior colleges should be corrected during the next two biennia which will require, in addition to present expenditures for libraries, special appropriations of $2,850,000 for each of the next two biennia to the state colleges and of $562,500 for each of the next two biennia to the state junior colleges.

D. All parties concerned should make conscientious efforts to increase the percentage of faculty who hold doctorate degrees to a percentage comparable to that in similar institutions.

E. The 1969 Legislature should proceed with funding for implementation of the recommendations of the inter-institutional television feasibility study as presented to the 1967 Legislature.

VII. The existing structure of Minnesota post-secondary education offers many strengths and advantages which should not be abandoned without more thorough assessment of all implications, but the structure will be more effective if refined.

A. In order to provide for more effective coordination, the responsibilities of the Higher Education Coordinating Commission should be delineated in such a way as to focus the attention of the Commission more directly upon those matters which determine the direction of developments of public post-secondary education: program planning, budgeting and new institutions.

1. The 1969 Legislature should charge the Commission with responsibility to review and express approval or disapproval

upon all plans and proposals for new or additional programs to be established in, or offered by, the University of Minnesota, the state colleges, the state junior colleges, and public area-vocational schools or centers, and periodically to review existing programs offered in or by the above institutions and to recommend discontinuing or modifying any existing program the continuation of which is judged by the Commission as not being in the best interests of the State.

2. The ways in which and extent to which the Commission should become involved in budget review or coordination will be recommended to the 1971 Legislature.

3. The legislature should declare its intention that all future proposals for establishing new public post-secondary institutions of all types be referred to the Commission for review.

B. Cooperation between state junior colleges and public area vocational-technical schools which are located in the same community should be expanded to include (1) joint program planning, (2) sharing of faculty personnel, (3) arranging for students in one institution to take advantage of offerings in the other institution, (4) joint use of auxiliary facilities, and (5) cooperative extra-curricular programs.

C. All institutions which conduct vocational-technical programs should follow, to the largest extent possible, a policy of qualifying for reimbursement from federal and state funds administered by the State Board for Vocational Education.

D. If a school board expresses the desire to merge or to combine the vocational-technical school and junior college programs offered in a community, the local school district should discontinue the area vocational-technical school and the junior college should take over the program after program proposals have been submitted to and received favorable review by the Higher Education Coordinating Commission and the Board for Vocational Education.

E. While the major effort of the state colleges should continue to be devoted to the teaching function, the proportion of effort devoted to the functions of research and public service should be increased.

F. Better balance in the distribution of students among instructional levels should be achieved both in the University of Minnesota and the state colleges, so that by 1980 distributions among lower-division undergraduate, upper-division undergraduate, and graduate students at the University of Minnesota are 34 per cent, 33 per cent, and 33 per cent respectively, while the same distributions in the state colleges are 56 per cent, 32 per cent, and 12 per cent.

VIII. Meeting the expanding need for post-secondary education will require increasing the investment in post-secondary education as well as modifying the approach to funding.

A. Since providing post-secondary education of the quality offered in leading states depends heavily upon Minnesota's investment in post-secondary education, the amount of state support per student, on which Minnesota ranks below average, should be increased.

B. The governor and the legislature should give serious consideration to establishing a more sophisticated higher education budgeting system which reflects the differential costs of instruction in the various program areas at each level of instruction and the nature of activity to be supported in the functions of research and public service.

C. In determining tuition and fee rates for public colleges and universities, it should be the policy of the state to expect that income from tuition and fees will provide approximately one-third of the amount expended for the teaching function as represented by direct and indirect expenditures for teaching and departmental research.

D. In order to facilitate full utilization of state college and university resources at all times of the year, the present policy of requiring that public colleges and universities establish tuition rates for summer sessions that are higher than rates for other terms should be discontinued.

E. The governing boards of all state institutions of higher education should be encouraged and given the flexibility necessary to secure funds from federal and private sources for purposes which are consistent with the missions of their institutions.

F. Institutional officers, as well as representatives of both the executive and legislative branches of state government, should continue and increase their efforts to encourage larger congressional appropriations to support higher education.

THE EXPANDING NEED

Minnesota has participated fully in the nation's rapid expansion of post-secondary education. During the past decade, post-secondary student enrollments in Minnesota have more than doubled, reaching a high of 144,244 (not including an additional 21,936 extension students) in the fall of 1968.[1] The marked expansion in enrollments reflects both the rising aspirations of individuals for advanced education and the needs of an increasingly complex society for citizens who have achieved the higher levels of preparation required for productive contributions to social, cultural, and economic progress.

The expansion of post-secondary education in Minnesota also reflects a strong commitment by the state to provide its residents with opportunities for advanced education. While enrollments in private institutions have grown substantially, an increasingly larger proportion of post-secondary students are being accommodated in public institutions. More than three-fourths of all post-secondary enrollments in Minnesota are in state-supported institutions.[2]

A fair share of the nation's post-secondary enrollments clearly is borne by institutions in Minnesota. In the fall of 1967, the last year for which national data were available, only 14 states reported larger total enrollments than Minnesota.[3]

Expansion of the research and public service functions of Minnesota colleges and universities has been accomplished concurrently with growth in the education of larger numbers of students. Teaching continues to be the largest function of colleges and universities, but, as represented by expenditures, 22.7 per cent of the effort of Minnesota colleges and universities was devoted to extension and public service, 25.1 per cent was devoted to organized research, and 52.2 per cent was devoted to teaching and departmental research.[4]

With nearly one-half of total college and university effort being devoted to research and public service activities, it is evident that expansion of post-secondary education reflects the growing demands of society for higher education to provide the new knowledge and expert advice which is essential to social, cultural, and economic progress, as well as for the education of a larger proportion of each new generation.

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[1] A brief commentary and tabular summary of fall 1968 enrollments appears in *Fifteenth Annual Survey of Minnesota College and University Enrollments,* a report prepared by the Higher Education Coordinating Commission.

Two previous publications provide more detailed information on post-secondary enrollments in Minnesota. An analysis of past enrollment trends and projections of future enrollments appears in *Planning Report 2: Population and Student Enrollments in Minnesota Higher Education.* A more detailed analysis of enrollments during the 1967-68 academic year is presented in *Planning Report 3: Student Enrollments in Minnesota Higher Education.*

[2] Minnesota Higher Education Coordinating Commission, *Planning Report 3: Student Enrollments in Minnesota Higher Education.*

[3] IBID. It is significant to note that the proportion of the nation's college and university students in Minnesota nearly equals the proportion of the nation's population in Minnesota. In the fall of 1967, students in Minnesota colleges and universities comprised 1.75 per cent of the nation's college and university enrollments, while Minnesota residents comprised 1.79 per cent of the nation's population.

[4] Minnesota Higher Education Coordinating Commission, *Planning Report 5: Current Operating Revenues and Expenditures in Minnesota Higher Education.* Private institutions expended 2.4 per cent for extension and public service and 2.3 per cent for organized research, while these percentages for public institutions were 26.0 and 28.8, respectively.

Expanding services and activities have required larger expenditures. A total of $314,385,899 was expended by Minnesota public and private colleges and universities for current operating costs (not including capital expenditures) during the 1967-1968 fiscal year. An additional $7.5 million was expended by area vocational-technical schools in instructional costs for post-secondary education.[5]

The investment from all sources has had to be increased to support larger expenditures associated with rising costs and expansion of activities. Private contributions and support from foundations have grown. The investment by the federal government has increased. State appropriations, which continue to represent the largest single source of support for Minnesota higher education, were increased by 170 per cent from 1960-61 to 1968-69. While lagging behind the national average increase in state appropriations for higher education of 233 per cent during the same period, the Minnesota increase in state support of 170 per cent reflects a serious effort to provide adequate higher education.[6]

The rapid expansion of Minnesota post-secondary education has not been easily accomplished. Increasing the magnitude of the investment in advanced education has been a difficult achievement for all who contribute to the financing of post-secondary education, including those who pay the taxes which provide the sources for both state and federal support. The capacities of some institutions have been severely strained. Improvement in quality often has been curtailed in order to accommodate increased quantity of service.

If the need for expansion had been fully met, all efforts could now be directed to improving effectiveness. Such is not the case. The very factors which fostered the need for expansion of post-secondary education during the last decade will create an even greater need for expansion during the next decade.

The social and cultural benefits of advanced education have long been recognized. The economic benefits of advanced education to both the individual and the state have been well documented.[7] The future progress of Minnesota and the well-being of Minnesotans are so dependent upon post-secondary education that failure to recognize the need for continuing growth would be an error with most serious consequences.

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[5] IBID.

[6] IBID. Tuition and fees represent the second largest source of support for current operating expenses of Minnesota higher education. For Fiscal Year 1968, state appropriations provided $73,887,837 while tuition and fees provided $55,079,848, of which $29,571,315 was collected by private institutions and $25,508,533 by public institutions.

[7] See, e.g., Bowman, M. J., "The New Economics of Education", *International Journal of Educational Sciences, 1966, 1: 29-46.* Heller, Walter W., "Men, Money, and Materials," *Educational Record,* XLIV (January 1963), 12-16. Schultz, T. W., *The Economic Value of Education,* New York: Columbia University Press, 1963.

Meeting the needs of Minnesota and its residents will require accommodating 90,000 more post-secondary students by 1980 than were accommodated in 1968-1969—an increase of 62 per cent. Enrollments must nearly double by the year 2000. The number of faculty and other professional personnel will have to be increased by at least the same rates. Additional physical facilities, including some new campuses, will be needed. With rising costs and a higher proportion of enrollments at the graduate level, post-secondary expenditures will have to be doubled prior to 1980.

As dramatic as the future expansion of post-secondary education may be, it must not be permitted to overshadow the necessary attention to the quality of educational activities. Only quality education can provide a sound basis for future progress. The real challenge facing post-secondary education is maintaining quality while expanding further to meet the increasing needs.

The importance of quality post-secondary education to continuing progress in Minnesota was recognized in the general policy which the Higher Education Coordinating Commission recommended for the State of Minnesota in March 1968. That policy, which serves as a basis for much of the remainder of this document, was stated as follows:

1. Because of the fundamental role of human talent in economic, social, and cultural progress in Minnesota, the development of human resources through advanced education is a prime matter of public responsibility.

2. Developing Minnesota's human resources to the extent necessary to provide for satisfactory progress in the more complex and technologically advanced society of the future will require the reaching of new and higher levels of educational productivity, both in terms of the numbers of people to be educated beyond the secondary school and of the quality of education provided.

3. Teaching, research, and public service must be recognized as three complementary but distinctive functions of higher education, all of which are aimed at providing the foundation of knowledge and skills in using knowledge essential to achieving economic prosperity and a viable social order; appropriate levels of support must be provided for each of the three basic functions.

4. Necessary improvements in educational productivity and rising costs will require large investments, the return on which will be highly favorable; because the need is great and the required investment is large, the continuing development of higher education

must be (a) based upon careful comprehensive planning, (b) related to meaningful policies and clear objectives, and (c) accomplished through a well-coordinated effort designed to assure educational effectiveness and reasonable economy of effort.[8]

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[8] Minnesota Higher Education Coordinating Commission, *A Philosophy for Minnesota Higher Education.* A more complete statement on the past and future relationship of post-secondary education to social, cultural, and economic progress in Minnesota precedes and provides the context for the general policy statement. A discussion of fundamental principles and goals for Minnesota higher education is presented following the statement of the basic policy. The principles and goals supplement and clarify the general policy statement. The reader is urged to review the complete text of *A Philosophy for Minnesota Higher Education* in order to gain complete understanding of the intent of the general policy statement.

WHO SHOULD BE EDUCATED?

About 68 per cent of the graduates of Minnesota high schools now enter post-secondary education. While this is an exemplary record for the state, it can be improved, and it must be improved, if the future needs of Minnesota and its residents are to be met.

All relevant projections indicate that each new decade will bring a society which is more technologically advanced and more socially and economically complex. Studies of manpower needs and employment opportunities for both the state and the nation indicate that (1) the occupational groups which will provide the most opportunities for employment in the future—professional and technical workers, clerical workers, and service workers—are among those which require persons with advanced education; (2) the need for personnel in occupational groups which previously provided opportunities for persons without post-secondary education—laborers and farm workers—will continue to decline at a significant rate; (3) young people are comprising an increasingly larger proportion of the unemployed population; and (4) there is a positive relationship between advanced education and both annual and lifetime income.[9] Clearly, the economic advancement, as well as the cultural and social progress, of both the individual and the state will depend upon the education of the state's citizens beyond high school.

In earlier times, much attention was devoted to the question of who should be educated beyond the high school. In 1968, this question is more readily answered.

TOWARD UNIVERSAL POST-SECONDARY EDUCATION

In the planning document, titled *A Philosophy for Minnesota Higher Education,* the Commission reported its conclusion that nearly universal post-secondary education has become necessary if Minnesota is to be assured of future prosperity. The Commission also proposed as a matter of urgency that "recognizing the value of personnel with advanced education and the liability to the state of the unskilled, every high school graduate who has reasonable capacity to profit from further education should be actively encouraged to enter an appropriate program of post-secondary education and every effort should be made to remove barriers to post-secondary education."[10]

In a more recent publication, *Population and Student Enrollments in Minnesota Higher Education,* the Commission recommended a specific objective based upon the above guideline. The Commission proposed that the ratio of total post-secondary enrollments to high school graduates in the 18 through 21 age group, which was 59.2 per cent in the fall of 1968, ought to be at least 85 per cent.[11] Recognizing that the 85 per cent objective cannot be achieved in a single giant step, *the Commission recommends that deliberate and positive efforts be made continuously to close the gap between the present ratio of post-secondary enrollments to high school graduates in the 18 through 21 age group in order to achieve the 85 per cent objective by the year of 1985.*[12]

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[9] A discussion of manpower needs and related matters appears in Appendix A.

[10] Minnesota Higher Education Coordinating Commission, *A Philosophy for Minnesota Higher Education,* p. 10.

TOTAL ENROLLMENT PROJECTIONS

Post-secondary enrollment projections through the year 2000 which provide for continuous progress in closing the gap between the present ratio and achieving the 85 per cent ratio objective in 1985 appear in Table I and are shown graphically in Figure I.[13]

TABLE I
ENROLLMENT PROJECTIONS 1969 TO 2000

Year	Projected Enrollment	Per Cent of High School Graduates Age 18-21 Enrolled	Year	Projected Enrollment	Per Cent of High School Graduates Age 18-21 Enrolled
1968 (actual)	144,244	59.2	1979	228,700	77.0
1969	153,500	62.5	1980	234,200	78.2
1970	158,400	63.1	1981	232,600	78.6
1971	167,300	65.3	1982	228,800	79.7
1972	174,700	66.6	1983	224,100	82.5
1973	181,600	67.4	1984	216,600	84.5
1974	190,500	69.2	1985	212,900	85.0
1975	198,400	70.6	1990	232,000	85.0
1976	204,300	71.5	1995	254,600	85.0
1977	214,800	73.9	2000	271,400	85.0
1978	221,600	75.5			

It should be noted that post-secondary enrollments, which totaled 144,244 (not including an additional 21,936 extension students) in the fall of 1968 are projected to increase steadily to 234,200 in 1980, to decline slightly after 1980 to a low of 212,900 in 1985, and then to resume an upward trend to a total of 271,400 in the fall of the year 2000.

PROJECTIONS BY LEVELS

The rates of increase are not expected to be distributed evenly among the levels of post-secondary education. While substantial increases are projected for all levels, the largest numerical increase is expected to be in the first two years beyond high school, and the

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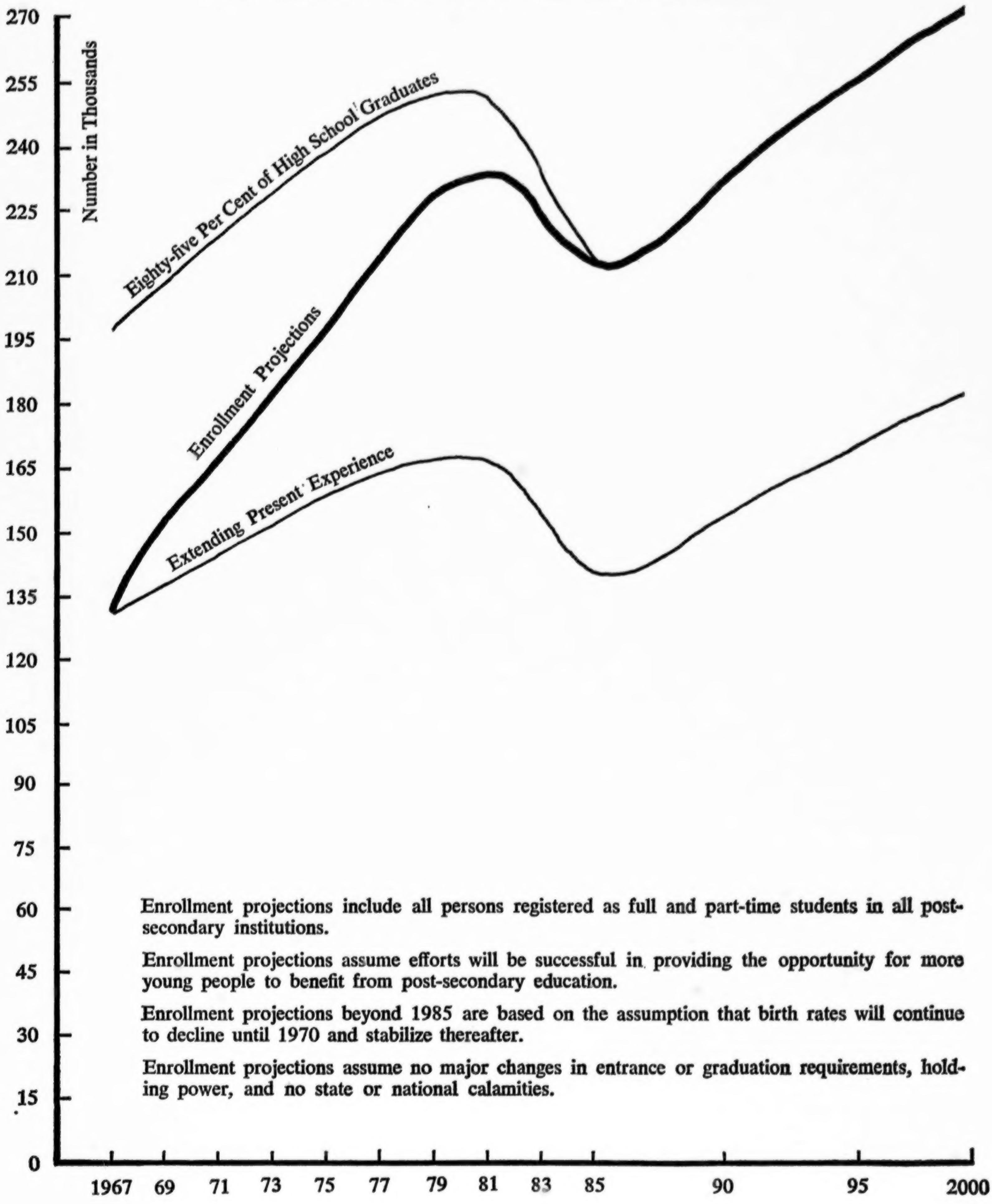
[11] Minnesota Higher Education Coordinating Commission, *Planning Report 2: Population and Student Enrollments in Minnesota Higher Education.* The per cent ratio of post-secondary enrollments to high school graduates in the 18-21 age group is derived by dividing the number of high school graduates of ages 18 through 21 in the state into the total number of post-secondary students in the state.

[12] This recommendation is consistent with recommendations which were made for the nation a decade ago. See, e.g., *The Pursuit of Excellence,* a panel report of the Special Studies Project of the Rockefeller Brothers Fund, 1958, and *Goals for Americans,* the report of the President's Commission on National Goals, 1960.

[13] Projections of population by age group and of numbers of high school graduates and the assumptions upon which projections are based are contained in the Commission's *Planning Report 2: Population and Student Enrollments in Minnesota Higher Education.* The projections of enrollments are discussed in Chapter IV of that publication.

FIGURE I

TOTAL POST-SECONDARY ENROLLMENT PROJECTIONS



Enrollment projections include all persons registered as full and part-time students in all post-secondary institutions.

Enrollment projections assume efforts will be successful in providing the opportunity for more young people to benefit from post-secondary education.

Enrollment projections beyond 1985 are based on the assumption that birth rates will continue to decline until 1970 and stabilize thereafter.

Enrollment projections assume no major changes in entrance or graduation requirements, holding power, and no state or national calamities.

greatest rate, or per cent, of increase is projected for graduate enrollments. Post-secondary student enrollment projections by level are presented in Table II.[14]

TABLE II

PROJECTED ENROLLMENTS BY LEVEL**

Year	Up to Two Years*	Third and Fourth Years	Post-baccalaureate	Total
1968 (Actual)	94,289	35,707	14,248	144,244
1969	101,592	37,323	14,585	153,500
1970	105,899	38,770	15,131	159,800
1971	111,222	40,177	15,901	167,300
1972	116,811	41,513	16,376	174,700
1973	121,953	42,907	16,740	181,600
1974	129,241	44,114	17,145	190,500
1975	134,714	45,235	18,451	198,400
1976	138,312	46,171	19,817	204,300
1977	146,495	47,470	20,835	214,800
1978	150,910	48,530	22,160	221,600
1979	155,975	49,627	23,098	228,700
1980	158,789	51,289	24,122	234,200
1981	156,541	50,241	25,818	232,600
1982	153,297	48,734	26,769	228,800
1983	149,699	47,509	26,892	224,100
1984	139,275	46,352	30,973	216,600
1985	134,759	45,773	32,368	212,900
1990	148,480	48,720	34,800	232,000
1995	162,436	52,447	39,717	254,600
2000	174,240	54,551	42,609	271,400

*Includes students in programs terminating in two years or less.

** Revised January 1969.

Until recently, the post-secondary population had limited opportunities to enter other than four-year educational programs. As more programs are developed for those who need or desire less than four years of post-secondary education, and as a larger proportion of the population enters post-secondary programs, the enrollment in programs of up to two years duration will increase more rapidly than the enrollment in the third and fourth years of college.

As the complexity of some occupations increases and the necessity to specialize and keep abreast of the changes associated with various professions intensifies, enrollments in programs beyond four years will increase proportionately faster than either third or fourth year program enrollments or program enrollments of two years or less.

DISTRIBUTION OF THE COLLEGE-AGE POPULATION

The large increases in the number of post-secondary student enrollments obviously have many implications for planning. In some respects, the probable location of the college-age population is equally significant. The urban-rural percentages of Minnesota population shifted from 54.5 per cent urban and 45.5 per cent rural in 1950 to 62.2 per cent urban and 37.8 per cent rural in 1960.[15] Current projections indicate that, by 1980, 75 per cent of Minnesota's population will be located in urban areas. By the year 2000, at least 90 per cent of the population will live in cities with a population of 5,000 or more, and at least 70 per cent of the population will live in communities with a population of 20,000 or more.

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[14] These data are taken from *Planning Report 2: Population and Student Enrollments in Minnesota Higher Education*, Minnesota Higher Education Coordinating Commission.

[15] IBID. Urban areas are defined as areas with a population exceeding 2,500.

An increasingly large proportion of the college-age population will be concentrated in the seven-county metropolitan area of the Twin Cities. In 1957, 47 per cent of all Minnesota residents who attended Minnesota colleges and universities as undergraduate students were from the seven-county metropolitan area.[16] Some indication of the rate of concentration of the future college-age population in the seven-county metropolitan area is revealed by the fact that the proportion of Minnesota's total population under six years of age living in the metropolitan area climbed from 45 per cent in 1957 to 51 per cent in 1967.[17]

ENROLLMENTS FROM OTHER STATES

Not all students who attend Minnesota post-secondary institutions are Minnesota residents. About 18 per cent of those attending Minnesota colleges and universities migrate to the state for higher education. While more than 30 per cent of the students in private colleges and universities are from outside the state, less than 15 per cent of those in public institutions are not residents of Minnesota. The total number of Minnesota residents who attend colleges and universities in other states nearly equals the number of out-of-state students attending colleges and universities in Minnesota.[18]

The relatively high percentage of Minnesota residents who are accommodated in the private colleges and universities of the state reflects the valuable contribution of this segment of higher education to Minnesota. Private colleges and universities enroll 20 per cent of the Minnesota residents who attend colleges as full-time undergraduates. Minnesota residents comprise 65 per cent of the full-time undergraduate enrollment in private colleges.[19]

A reasonable number of out-of-state students should be educated in Minnesota. The artificial barriers of invisible state lines are just as disadvantageous for Minnesota residents who live near the state's borders as they are for residents of other states who live in close proximity to Minnesota institutions. Moreover, a portion of out-of-state students who receive advanced education in Minnesota will decide to remain and become valuable additions to Minnesota's pool of trained manpower.

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[16] Minnesota Higher Education Coordinating Commission, *Planning Report 3: Student Enrollments in Minnesota Higher Education.*

[17] Minnesota Higher Education Coordinating Commission, *Planning Report 2: Population and Student Enrollments in Minnesota Higher Education.*

[18] Minnesota Higher Education Coordinating Commission, *Planning Report 3: Student Enrollments in Minnesota Higher Education.*

[19] IBID.

It is recommended that policies relating to the entrance of out-of-state students to public institutions in Minnesota should be designed to maintain approximately equal balance between the number of out-of-state students in all Minnesota institutions (including both public and private) and the number of Minnesota residents who pursue advanced education in other states. It is further recommended that first preference in determining priorities for admission of out-of-state students to Minnesota's public institutions be given to students covered by reciprocity agreements with other states and that second preference be given to graduate students.

MAKING OPPORTUNITIES AVAILABLE

Minnesota residents have the advantages of opportunities in nearly all possible program areas at all appropriate levels of post-secondary education. As shown in Table III, Minnesota publicly-supported post-secondary institutions offer programs in 94.3 per cent of all program areas at those levels on which information is collected by the U. S. Office of Education. Programs in 43.2 per cent of the areas are offered by more than one public institution. Offerings are provided by private colleges in 32.8 per cent of the areas. Multiple opportunities in most program areas and at most levels provide qualified students with alternatives relating to both the type of institution and the geographical area of the state in which to pursue a field of interest. The program areas in which there tend to be only a single opportunity within the state are largely those at the University of Minnesota which lead to the doctorate or to the first professional degree in such fields as medicine and engineering.

Without question, Minnesota has established an excellent record of progress in making post-secondary opportunities both available and geographically accessible to its residents. However, there are some voids and some areas of deficiency which must be corrected as quickly as possible. In addition, some factors and conditions which have the potential for limiting the availability or accessibility of opportunities, must be continuously monitored and their implications continuously assessed.

ACCESSIBILITY AND COORDINATION OF PROGRAMS

Clearly, all post-secondary programs which are made available within the state cannot be duplicated to provide a complete range of programs within commuting distance of every resident. The impracticality is obvious in the instances of such fields as medical education, computer programming, engineering technology, printing, Slavic languages, and heavy operating equipment. In some cases, the high costs of special facilities and equipment as well as shortages of qualified instructional personnel make the establishing of duplicative programs economically unfeasible. In other cases, the relatively limited number of potential students who wish to specialize in a particular field makes effective operation of a quality program economically unfeasible. Unfortunately, no simple rule exists to determine what programs should be made available in which and how many locations.

Relevant programs should be made as accessible as possible to all potential students in the state. Conversely, duplication of programs to provide better accessibility without regard for program quality, effectiveness, and costs is, at best, unwise. There are obviously greater advantages in making one strong program available to serve the

TABLE III

NUMBER OF PROGRAM AREAS AND PERCENTAGE OF ALL POSSIBLE PROGRAM AREAS OFFERED IN MINNESOTA

	Number of Possible Programs	Programs Available in				Programs Available at More Than One Institution			
		Private Institutions		Public Institutions		Private Institutions		Public Institutions	
		Number	Per Cent of All Possible	Number	Per Cent of All Possible	Number	Per Cent of All Possible	Number	Per Cent of All Possible
ccupational	23	1	4.3	23	100.0	0	0.0	22	95.6
accalaureate	49	35	71.4	43	87.7	30	61.2	23	46.9
irst-Professional	5	2	40.0	4	80.0	1	20.0	0	0.0
dvanced (Master's and/or Doctorate Degrees)	115	25	21.7	111	96.5	4	3.5	38	33.0
OTAL (All Levels)	192	63	32.8	181	94.3	35	18.2	83	43.2

needs of the entire state than in making several poor programs more readily accessible to a higher percentage of residents. Inferior programs, no matter how accessible, are usually a disservice rather than a service to students seeking post-secondary education. The practical limitations of duplicating many high cost programs for few students is obvious. Recognizing the value of making as many opportunities as readily available as possible to all residents in all parts of the state and also the undesirable consequences of indiscriminate duplication of instructional programs, *the Commission recommends that it be the policy of Minnesota to make state-supported instructional programs in all areas of study and at all levels of instruction as geographically accessible to all residents of the state as is consistent with (1) maintenance of high quality, (2) economy of effort considering relative costs of duplicative programs, and (3) the judicious use of resources to meet total needs of the state for post-secondary education.*

Effective implementation of the above policy will require coordination of the program offerings, not only within components or systems of post-secondary education, but also among the several systems. Coordination of programs is consistent with the statutory purposes of the Higher Education Coordinating Commission, and the Commission would be prepared to perform such a function. Therefore, *it is recommended that the legislature assign responsibility to the Minnesota Higher Education Coordinating Commission for coordination of instructional program offerings in all state-supported post-secondary institutions through a program review procedure.*[20] Additional discussion of this recommendation will follow in the section on structure of higher education.

MAKING INSTITUTIONS ACCESSIBLE

The accessibility of instructional program opportunities is dependent to a large extent upon the accessibility of post-secondary institutions. The greatest possible geographical accessibility to instituions would be achieved by placing either a comprehensive university campus or every type of post-secondary institution within 20 miles of commuting distance of every Minnesota resident. The impracticality of attempting to achieve such accessibility is evident.

Indiscriminate proliferation of institutions can be even more damaging than unwarranted duplication of programs. As unfortunate as it may seem, the geography and population distribution of the state are such that providing a post-secondary institution of any type within commuting distance of every Minnesota resident is beyond the limits of practicality. However, making post-secondary education as accessible as possible is so essential to meeting the needs of the state and its people that every feasible step should be taken.

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[20] The term "program" is defined in the Commission's complete statement on program review which appears in Appendix B.

In accordance with the view that post-secondary education should be made fully accessible to as many Minnesota residents as practical, *the Commission recommends that the following guidelines become the policy of the state on establishing and supporting institutions of post-secondary education:*

A. *A publicly-supported institution of post-secondary education should be located within 35 miles of every Minnesota community with a population of 5,000 or more.* (See Figure II.)

B. *A public institution which offers at least the first two years of collegiate studies leading to the baccalaureate degree should be located within 20 miles of every Minnesota community with a population of 10,000 or more.* (See Figures III and IV.)

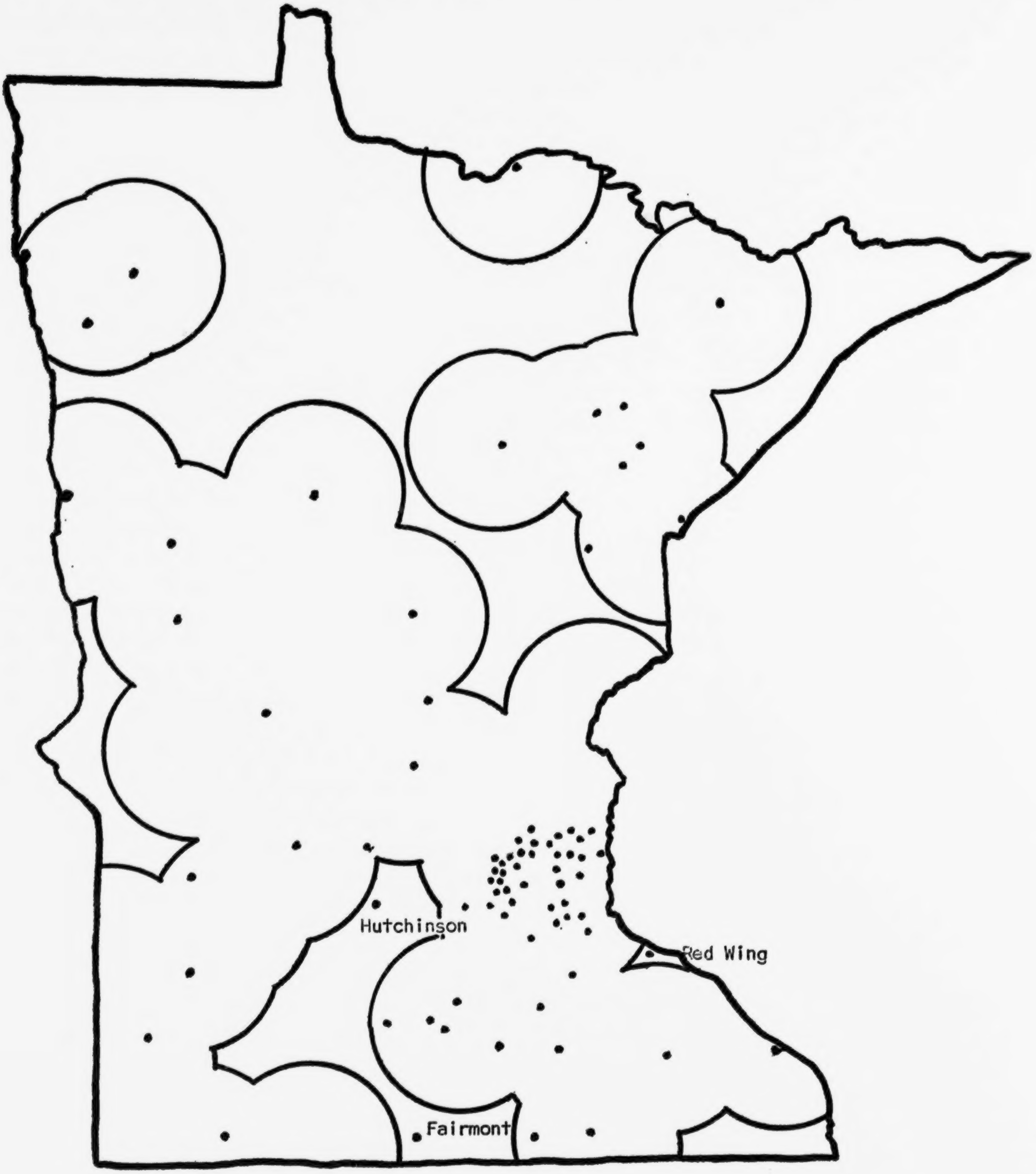
C. *When the peculiar characteristics of an area clearly indicate the desirability of establishing and supporting institutions in addition to those established and maintained through implementation of guidelines A and B, the determination to establish additional institutions should be based upon the special intensity and extent of need in the area and should be considered in the context of the total needs of the state for post-secondary education.*

While the three elements of the above policy are proposed as guidelines to be used with sound judgment, rather than as rules to be followed arbitrarily, they can point directions and serve as a useful framework for making decisions on establishing new institutions and maintaining existing institutions. General implementation of guidelines A and B through the year 2000 will assure some kind of post-secondary institution within reasonable commuting distance (35 miles) of more than 90 per cent of the population and an institution which offers two years of studies leading to a baccalaureate degree within convenient commuting distance (20 miles) of 80 per cent of all Minnesota residents. Guideline C will provide the basis for meeting needs in areas with special circumstances, such as high concentrations of population.

In order to facilitate implementation of the proposed policy on establishing and supporting institutions of post-secondary education, *it is recommended that the legislature indicates its intention that all proposals for establishing new public post-secondary institutions of all types be referred to the Higher Education Coordinating Commission for prior review and recommendations; action by any board in agreement with or contrary to the recommendation shall be reported to the legislature and included in the Commission's biennial report.*

FIGURE II

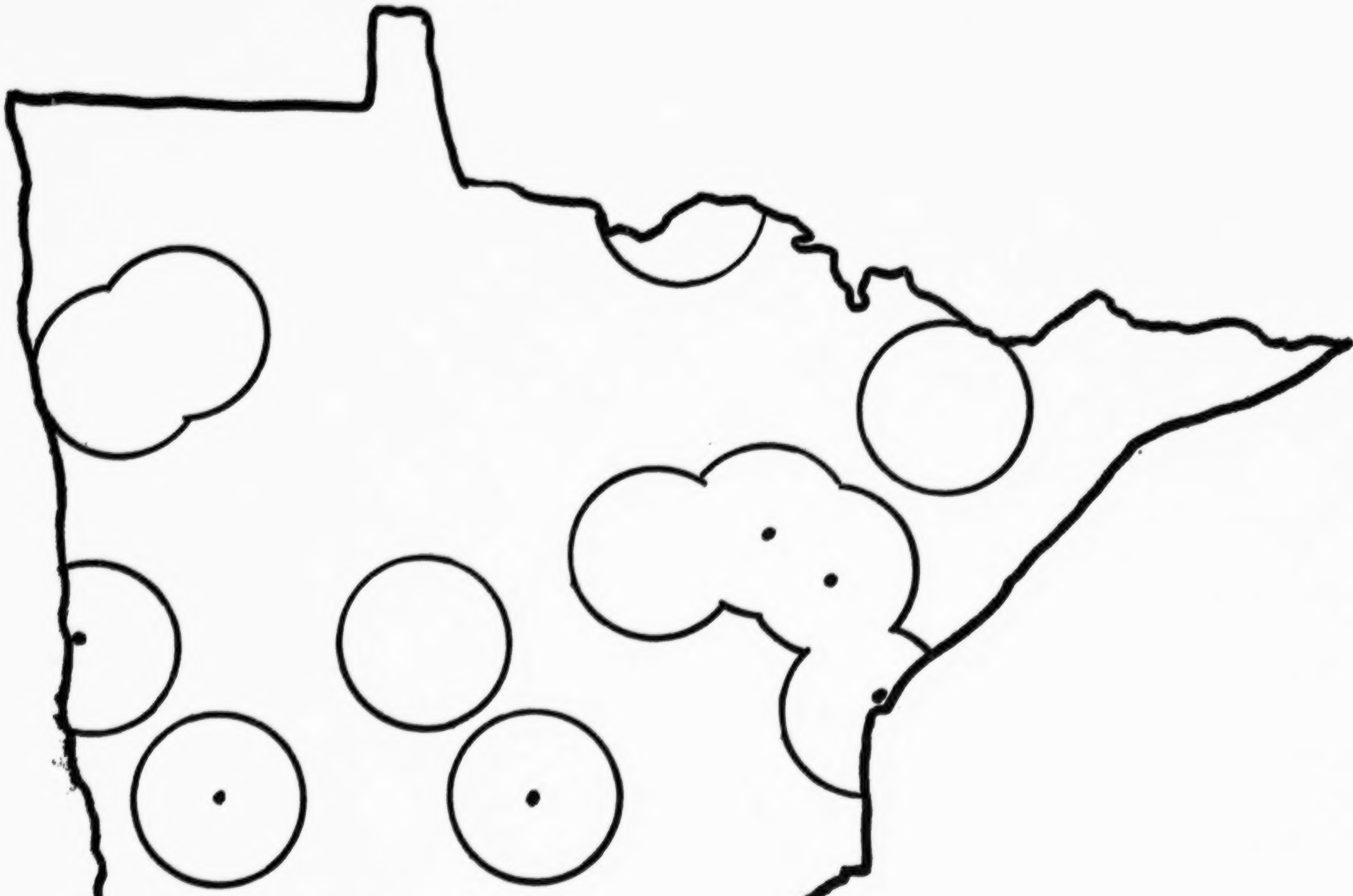
AREAS IN MINNESOTA WITHIN 35 MILES OF PUBLIC POST-SECONDARY INSTITUTIONS WITH LOCATIONS OF COMMUNITIES WITH 5,000 OR MORE POPULATION


Hutchinson
Red Wing
Fairmont

● Indicates communities of 5,000 or more population.

FIGURE III

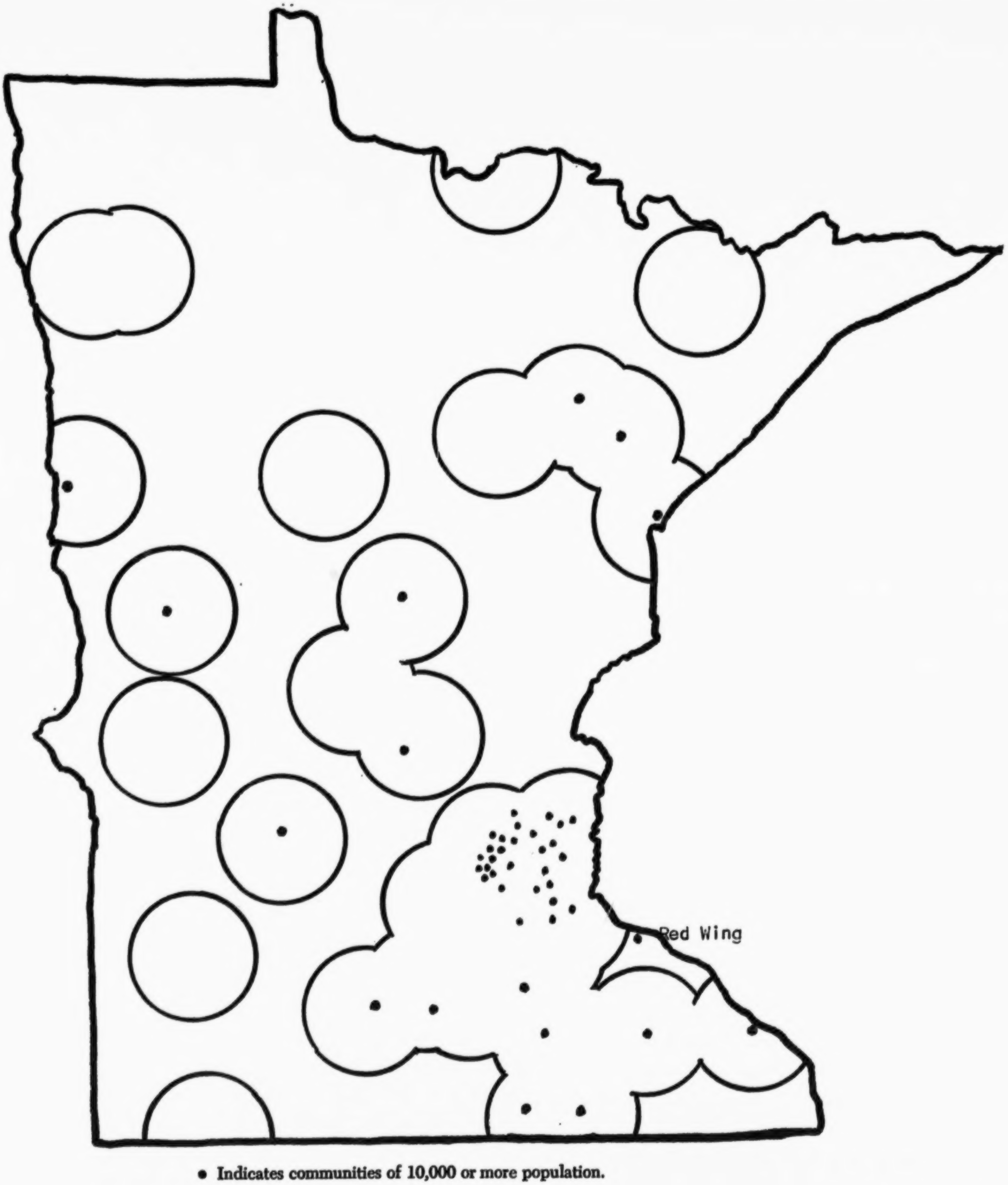
AREAS IN MINNESOTA WITHIN 20 MILES OF PUBLIC UNIVERSITIES AND COLLEGES WITH LOCATIONS OF COMMUNITIES WITH 10,000 OR MORE POPULATION


Red Wing
Faribault
New Ulm
Owatonna

• Indicates communities of 10,000 or more population.

FIGURE IV

AREAS IN MINNESOTA WITHIN 20 MILES OF PUBLIC AND PRIVATE UNIVERSITIES AND COLLEGES WITH LOCATIONS OF COMMUNITIES WITH 10,000 OR MORE POPULATION



● Indicates communities of 10,000 or more population.

RECOMMENDATIONS FOR NEW INSTITUTIONS

Meeting the expanding need for post-secondary education and continuing progress in making post-secondary education accessible to Minnesota residents requires immediate action. *Accordingly, the Commission recommends:*

A. *That the legislature at the 1969 session (1) confirm the tentative designation by the 1967 Legislature of Fairmont as the location for a new state junior college, (2) designate the following additional five communities (listed in alphabetical order) as locations for new state junior colleges:*

a. Alexandria
b. Cambridge
c. Hutchinson
d. New Ulm
e. Owatonna

(3) provide the State Junior College Board with the necessary direction, authorization, and resources to proceed with the planning of the campuses, the appointment of administrators and faculties, and the construction of buildings on a time schedule which provides for sound institutional planning and permits all six of the new junior colleges to be fully operational as soon as feasible, but not later than the fall of 1974.

While the need for additional junior colleges, as well as other public institutions, requires further study, the need for the six junior colleges recommended in this report is evident now. The Commission will recommend additional institutions at such times as the need is more clearly demonstrated. The report on the Commission's study and the complete recommendations on new state junior colleges appears in Appendix C.

B. *The Minnesota Higher Education Coordinating Commission concurs with the recommendation of the University of Minnesota proposal that the Southern School of Agriculture be phased out in an orderly manner and that a two-year collegiate-technical program be established leading to appropriate agriculturally-related degrees.*

Concurrence in the University recommendation by the Coordinating Commission implies: (1) recognition by the Commission of the need for programs of instruction directly relating to the needs for additional manpower in agriculture at the para-professional level, (2) recognition by the Commission of the advisability of converting the present facilities of the Southern School of Agriculture for use as a technical institute to meet the need for agricultural training, (3) recognition by the Commission of the necessity to evaluate any future changes or recommendations for changes in the mission of the institute or the focus of the programs which it shall offer. Nothing in this action prejudges the future possibility of recommendations from the Commission regarding the future structure of higher education in Minnesota. It is recognized that some future recommendations may propose the assignment of the proposed technical program and facilities to another governing board. The complete resolution on the Southern School of Agriculture proposal, as passed by the Commission, appears in Appendix D.

SPECIAL METROPOLITAN AREA NEED

With nearly one-half of the Minnesota residents who attended Minnesota colleges and universities as undergraduate students now coming from the seven-county metropolitan area of the Twin Cities and the projection that increasingly larger proportions of Minnesota's college-age population will be concentrated in the metropolitan area in future years, the magnitude of need for post-secondary education in the metropolitan area is approaching and will soon surpass the combined needs of all other areas of the state. Moreover, the characteristics of the population and the complex conditions of the increasingly urbanized environment are among the factors which may well demand an approach to post-secondary education which differs significantly from the approaches which have been more traditional in Minnesota.

The problem of providing adequate and relevant post-secondary opportunities for meeting needs in the metropolitan area demands immediate and thorough assessment. The impact of recently established junior colleges upon the metropolitan area is just beginning to become evident and requires careful examination.

The recently implemented program for the culturally disadvantaged urban student at the Twin Cities campus of the University of Minnesota needs complete evaluation. An upper-division senior college which has been suggested for the metropolitan area deserves full consideration. The effectiveness of new and experimental approaches to post-secondary education in major metropolitan centers throughout the nation need to be reviewed. These are but a few of the activities which must be related to a comprehensive assessment and projection of post-secondary education needs and problems in the Twin Cities area.

In order to provide for an adequate analysis of the special needs and problems associated with post-secondary education in the Twin Cities metropolitan area, *it is recommended that the 1969 Legislature* *make a special appropriation of $50,000 to finance a thorough study of needs and alternative solutions for post-secondary education in the Twin Cities and the seven-county metropolitan area to be conducted by the Higher Education Coordinating Commission in cooperation with public and private post-secondary institutions.* The complete resolution as adopted by the Commission appears in Appendix E.

It is anticipated that the metropolitan area study can be completed and recommendations on the best alternatives for meeting needs in the area can be finalized prior to the end of Fiscal Year 1970. In order that progress not be unnecessarily delayed, *$500,000 should be appropriated by the 1969 Legislature to an appropriate agency for the purpose of developing new institutions and/or expansion of existing institutions in the seven-county metropolitan area. The agency so designated as custodian of the appropriation should be empowered to make allocations from the appropriation to the Board of Regents, the State College Board, and/or the State Junior College Board for immediate implementation of the Commission study recommendations.*

INTERSTATE COOPERATION

Advanced educational opportunities can be made more readily accessible to many Minnesota residents—those who live near the state borders and in close proximity to public institutions of neighboring states—without establishing any new institutions or expanding program offerings in existing institutions. The 1967 Legislature took an important step forward in passing legislation authorizing the Higher Education Coordinating Commission to enter into reciprocity agreements with neighboring states, subject to approval by the University of Minnesota Board of Regents, the State College Board, and the State Junior College Board, in order to provide opportunities for appropriate Minnesota residents to attend the state colleges and universities of neighboring states without being subjected to restrictions, such as nonresident tuition rates, which ordinarily are applied to nonresident students. Under such reciprocity agreements, appropriate residents of the neighboring state are granted comparable privileges for attending public institutions in Minnesota.

A Minnesota-Wisconsin higher education reciprocity agreement, which was developed jointly by the Minnesota Higher Education Coordinating Commission and the Wisconsin Coordinating Council for Higher Education, has been adopted. Minnesota residents who reside near Wisconsin public colleges and universities will benefit from the new interstate agreement beginning in the summer of 1969. The elements of the Minnesota-Wisconsin reciprocity agreement are presented in Appendix F.

While Wisconsin is presently the only neighboring state in which higher education reciprocity agreements have been authorized, exploratory discussions have been held with officials of all neighboring states. It appears likely that the necessary legislation may be passed in at least one additional neighboring state, permitting a second reciprocity agreement to be finalized during the next biennium.

While progress may necessarily come slowly and several different arrangements may have to be tested in seeking the best arrangements for improving accessibility to advance educational opportunity through reciprocity agreements, the potential of this approach for improving the availability and accessibility of post-secondary education to many Minnesota residents appears to be significant. The Commission will continue to be diligent in its efforts to achieve the benefits of such potential for Minnesota residents. *It is recommended that the policy established by the 1967 Legislature of seeking to improve the availability and accessibility of advanced educational opportunities to Minnesota residents through reciprocity agreements with neighboring states be continued and extended to include post-secondary vocational education.*

REMOVING BARRIERS TO POST-SECONDARY EDUCATION

Improving the ratio of post-secondary enrollments to high school graduates in the 18 through 21 age group from 59.2 per cent in 1968 to 85 per cent by 1985 will require the attraction of a significantly larger proportion of Minnesota youth to post-secondary opportunities. More young persons must be encouraged to enter post-secondary education, and a higher percentage of the more able must be stimulated to continue studies through the graduate level.

Making post-secondary opportunities available and geographically accessible as recommended in the previous section is a fundamental step in providing for the education of a larger proportion of Minnesota youth. The lack of program opportunities appropriate to the varied interests of youth and the need to travel great distances can deter many young people from pursuing advanced education. The very presence of a post-secondary institution in the general area can have positive influence upon a young person's attitudes, and those of his family, about continuing his education beyond high school.

IMPROVED GUIDANCE NEEDED

If high school students are to be expected to make sound decisions regarding post-graduation activities, they must have the benefit of (1) accurate and complete information on both the kinds and locations of available opportunities and the long and short-range implications of a decision in favor or against pursuing post-secondary education and (2) professional assistance and advice in determining realistic goals and in identifying and selecting post-secondary opportunities which are compatible with individual interests, abilities, and goals. The lack of adequate information and assistance can cause many students not to continue the pursuit of education beyond high school or to select inappropriate opportunities resulting in their dropping out or failing.

In view of the importance of effective counseling and information services in assuring that students give full consideration to the advantages of continuing education beyond high school and in order that they have access to both the facts and the assistance necessary for selecting appropriate opportunities, *the Commission recommends that guidance programs be strengthened to the extent of providing effective counseling and information services to all secondary and post-secondary students.* The Commission recognizes the importance of the work in this area being done by the State Department of Education and the High School-College Relations Committee of the Association of Minnesota Colleges. These efforts are to be encouraged and possible means for strengthening their impact supported.

MEETING FINANCIAL NEEDS

Lack of adequate funds has long been recognized as a barrier to post-secondary education, especially for students from families in the lower-income groups and from average-income families which have several children finishing high school within a few years. The rapidly rising cost of attending post-secondary institutions in recent years has made the problem of financing post-secondary education particularly acute. In spite of contributions from private sources and from the federal government through such programs as the educational opportunity grants and federally-insured student loans, funds available for student aids have not been sufficient to provide the necessary stimulation and financial support of enough young people from Minnesota families with lower incomes.

The 1967 Minnesota Legislature made an important contribution by establishing the Minnesota State Scholarship Program. The program will help assure that the most able of Minnesota's youth will have the required financial support for education through the baccalaureate degree. However, the $250,000 which was appropriated for stipends to scholarship recipients during the first year of the program was sufficient to provide financial assistance to only 417 Minnesota residents—less than one per cent of the number graduating from Minnesota high schools in a single year. All applicants who received monetary assistance ranked in the upper four per cent in academic aptitude of all Minnesota high school seniors.

While the State Scholarship Program has great potential for facilitating development of the best of Minnesota's human resources, funding of the program will have to be substantially increased if the program is to have significant impact. *The Commission recommends that the level of investment of state funds in Minnesota State Scholars be substantially increased as rapidly as possible and that sufficient funds be appropriated to provide financial assistance for at least 1,200 new recipients of Minnesota State Scholarships per annum during the next biennium which, including renewals, will require an appropriation of $2,750,000 for the next biennium.*

Every year, there are graduated from Minnesota high schools many young people from low income families who can not meet the very high standards of ability and achievement required for a Minnesota State Scholarship, but who could and should profit from attending college. The Minnesota State Scholarship Program provides assistance to the most able who demonstrate financial need. Increasing the proportion of Minnesota youth from lower income families who continue education beyond high school will require aid for the financially very needy, even though those of great financial need may be only average or below in academic ability.

In order to provide the necessary financial assistance for Minnesota youth from low income families who can and should profit from advanced education, but who do not have the outstanding ability required for a Minnesota State Scholarship, *the Commission recommends the establishment by the 1969 Legislature of a state program of grants for higher education to be awarded solely on the basis of financial need to Minnesota youth who have reasonable chance of success at a Minnesota college or university, public or private, of the student's choice; the grants program should be started with an initial appropriation of $600,000 during the next biennium.*

State colleges and junior colleges are presently prohibited from waiving tuition. In order to provide the necessary flexibility for providing financial assistance through tuition remission in those instances where funds to cover costs of instruction are available, *the Commission recommends that the 1969 Legislature authorize every state institution of higher education to waive tuition for financially disadvantaged students for courses when the institution has available funds to cover the cost of their instruction.*

Continuing attention must be devoted to identifying factors and developing programs which will increase the proportion of Minnesota youth who pursue post-secondary education. In the meantime, adopting and implementing those proposals presented herein will provide progress in achieving the Commission's previous recommendation that "every high school graduate who has reasonable capacity to profit from further education should be actively encouraged to enter an appropriate program of post-secondary education, and every effort should be made to remove barriers to post-secondary education."[21]

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[21] Minnesota Higher Education Coordinating Commission, *A Philosophy for Minnesota Higher Education*, p. 8.

FUNCTIONS OF POST-SECONDARY EDUCATION

The basic functions of post-secondary education are the transmission of knowledge through teaching, the extension of knowledge through research, and the application and diffusion of knowledge through public service. Two additional groupings of activities are of sufficient consequence to deserve mention, even though they are not among the three basic functions, but instead relate to and facilitate the performance of teaching, research, and public service. These two groupings of activities are: (1) scholarship or departmental research and (2) supporting activities.

Scholarship or departmental research consists of a fairly wide variety of activities which are related to learning and the extension of knowledge. Although they do not specifically comprise any one of the three basic functions, scholarship and departmental research activities keep faculty prepared to perform the basic functions and often involve utilization of skills peculiar to a certain field or discipline. These activities frequently involve creative or artistic expression. Examples include the writing of a poem, the painting of a picture, the composing of a symphony, and the translating of a piece of literature from a foreign language to English. Less evident, but equally important, are the continuing acquisition, assimilation, and synthesis of knowledge through constant study and reflective thinking. Departmental research is essential to all three of the basic functions of higher education, since it is through such scholarly activity that the faculty of an institution maintain and advance skills and expertise in their respective fields of specialization. It is through scholarship that one becomes and remains a scholar.

Supporting activities comprise those programs which are maintained to support the basic functions of higher education. Student counseling, for example, is conducted not because counseling is a basic purpose or function of an institution, but because it supports and facilitates effective performance of the teaching function. Thus, while student counseling is a necessary activity, it is supplementary to instructional programs.

The discussion which follows is meaningful only if the relationships and importance of departmental research and supporting activities to the three primary functions of higher education are recognized.

INSTRUCTIONAL PROGRAMS (TEACHING)

Meeting future needs for higher education will require a wide range of programs at several levels of instruction. While the first objective in offering varied programs is to provide educational opportunities which are consistent with the diversity of interests and talents of the youth of Minnesota, such a range of programs will also serve the needs of the State for educated people with many different competencies.

Baccalaureate Degree Programs

Programs leading to the baccalaureate degree should continue to be the core of post-secondary education in Minnesota. In general, these programs should provide a broad liberal education and preparation in some depth in at least one field of study. Some of these programs must also provide the opportunity for the acquisition of professional skills, such as those needed in teaching. These programs may be entered directly from high school or after completion of a junior college program designed to provide the first two years of baccalaureate preparation.

Associate Degree Programs

Associate degree programs should be designed to provide the opportunity for students to complete two academic years in an organized educational program of college level without prior entrance into a baccalaureate program. Two types of associate degree programs should be provided by public higher education: (1) the Associate in Arts degree and (2) other associate degrees.

The Associate in Arts degree should consist of a broad liberal education and should provide the "general education" elements or first two years of the baccalaureate program. It should provide an appropriate program both for the individual who seeks to transfer to a baccalaureate program for the purpose of earning a degree and for the individual who seeks to terminate his education with two years of study in the liberal arts. Other associate degrees should be awarded for successful completion of a program designed to provide specialized technical competence in a particular field, such as accounting or engineering technology. In order to provide more specialized preparation, programs leading to other associate degrees must necessarily provide less general education and cannot be viewed as corresponding to the first two years of a baccaluareate degree program. Such programs should be designed for the student whose primary objective is two years of terminal technical education at the college level.

Graduate and Professional Degree Programs

Post-baccalaureate programs should focus primarily upon developing increased understanding in a particular discipline or in an area of knowledge. In addition, those of a professional nature must include preparation aimed at developing the professional skills necessary to provide quality services.

Post-baccalaureate programs will need special attention during the next decade. Rapid changes in the status of knowledge, technologies, and equipment create particularly serious problems at these advanced levels. Increases in post-secondary education enrollments in Minnesota and throughout the nation will create an expanding need for college and university teachers. The demands of government, the military, and industry for competent persons with advanced preparation are expected to continue in greater magnitudes. Each additional step in the direction of greater social and technological complexity will create greater demands for persons who can provide those services which require advanced study beyond the baccalaureate degree. This demand must be met if Minnesota is to achieve satisfactory social and economic progress.

Post-baccalaureate education is extremely costly, especially at the doctoral level. While every effort must be made to identify ways to reduce costs while increasing productivity, extreme care must be used to preserve the nature of graduate education, which otherwise may degenerate into little more than an extension in the number of years of undergraduate education.

Vocational Education

A prominent place in any complete effort to provide for the development of individual talents through education must be given to vocational-technical programs which are of two years or less in duration and which are skill-centered and occupationally-oriented. While some of these programs should lead to an associate degree, others, because of their length or nature, should not lead to a collegiate degree, but to a certificate.

Unfortunately, there has been a recent tendency throughout the nation for parents and students to overemphasize the importance of a collegiate degree and to view vocational education as something less worthwhile. While diligent efforts of many dedicated people have brought substantial improvements for which Minnesota can be justifiably proud, vocational education has not as yet achieved its proper place in the mainstream of post-secondary education. Too often vocational education has been viewed simply as a means of securing employment for those who do not have the capacity for continuing growth through further education.

Both controversy and misunderstanding have surrounded vocational education. There have been differences of opinion regarding the place, the nature, and the value of post-secondary vocational education. Some of the views expressed have been extreme.

The Commission rejects the view that the best education for all is education in the liberal arts. Vocational-technical programs provide the diversity necessary to meet the needs and interests of many Minnesota youth. A single track approach to post-secondary education is feasible when opportunities are to be provided only for a select group of carefully chosen students. Since Minnesota post-secondary education must serve a broad spectrum, the idea of education in the liberal arts for all must be rejected.

The Commission also rejects the view that effective vocational education can be conducted only in isolation from "academically-oriented" education. Both the increasing complexity of our social order and the larger ends of human life demand that man function other than solely as a worker. As a citizen in a competitive, dynamic, and democratic society, he must live in terms of the cultural, political, economic, ethical, and social aspects of an increasingly complex life. The opportunity for the vocational student to elect to take advantage of general education can significantly strengthen his preparation for his future.

Post-secondary education, even when occupationally-oriented, must provide growth and flexibility so that the individual can both comprehend and adjust effectively to the changing world in which he must live. Occupational change is an evident and striking characteristic of technological advancement. The Department of Labor projects that the average youth of today will probably shift occupations some five times over the next forty years he is in the labor market. Jobs which existed in large numbers a few decades ago no longer exist. Others which were nonexistent a few decades ago are prevalent today. With the prospect that many will need to make major occupational changes during their lifetimes, flexibility and breadth are invaluable.

While narrow training as preparation for the specific job requirements of a particular industry may facilitate short-term progress in Minnesota, vocational education which is realistically focused for meeting the long-range needs of the individual and the state will provide preparation which emphasizes the important principles and skills underlying a family of occupations rather than the more confining skills of a more narrow activity.

RESEARCH

Discovering, testing, revising, extending, and synthesizing knowledge comprise one of the three basic functions of higher education. While other agencies of government and industry contribute to the production of knowledge, higher education has been given the major responsibility for seeking knowledge through research. Only higher education has *comprehensive* responsibility for extending knowledge in all fields and to whatever ends may be fulfilled.

Research is also important in higher education for its effects upon the teaching-learning processes. The role of research and scholarship among the faculty of an institution of higher education to a large degree determines the "institutional climate" with which the student interacts. There is substantial evidence that institutional climate is a significant (in fact, it may be the most significant) determining factor of the nature of the educational experience.

While a climate of research and scholarly productivity is healthy for any level of post-secondary education, it is essential to effective graduate education which involves specialization at the outer limits of knowledge. Because of their value in providing the knowledge base for human progress and their impact upon the educational experience, research and scholarly productivity must continue to be strengthened in Minnesota higher education. Moreover, scholarly productivity should have a dominant role in those institutions which provide graduate education, especially in those which offer the doctorate.

PUBLIC SERVICE AND CONTINUING EDUCATION

The continuing demands for the services of higher education to help meet the needs and solve the problems of the state, local communities, business and industry, schools, and service agencies cannot be ignored. All institutions of higher education have a responsibility for making a favorable impact upon the cultural, economic, and social environment in which they are situated. Publicly-supported institutions have a special responsibility to provide a positive influence upon their surrounding environments by using the facilities and expertise at their disposal for meeting the needs of Minnesota and its many geographical, political, and social subdivisions.

Some of the most dramatic examples of effective performance of public service functions in the past have been found in the agricultural extension services of the nation's land-grant colleges and universities. Changing conditions have stimulated the need to extend the concept of public service beyond the agricultural community. Meeting future needs of Minnesota will require a broad spectrum of services which are addressed to problems and conditions among all of the population and in all areas of the state. Many public services can be partially self-supporting, but others cannot. While federal and private sources should be fully utilized for financing public service activities, the state must assume final responsibility for supporting the public service function.

An increasingly important form of public service is continuing and adult education. Rapid change creates a great need for persons to continue to acquire knowledge and to improve their skills throughout life. Substantial increases in leisure time create a vacuum which must be filled with meaningful and useful activity. Continuing education is aimed at meeting these expanding needs and has an important role to perform in the future progress of Minnesota.

Every public institution should be expected to maintain a significant program of public service which is (1) designed to utilize effectively the particular strengths of that institution, (2) aimed at meeting specific and identifiable needs of the people of the local community and the state, and (3) has as its core a suitable program of continuing education.

EFFECTIVENESS OF MINNESOTA HIGHER EDUCATION

Although there are no adequate objective means of determining the effectiveness of institutions of higher education, some insight can be gained by considering productivity, quality, and economy. Each of the three factors as applied to Minnesota higher education are discussed briefly below.

PRODUCTIVITY

The productivity of Minnesota colleges and universities is relatively high. During the 1966-1967 academic year, Minnesota public and private colleges and universities produced a combined total of 15,954 graduates. Of these, 12,815 were awarded baccalaureate degrees, 617 received first professional degrees, 2,114 were recipients of master's degrees, and 408 were awarded doctorate degrees. In addition, 2,577 associate degrees were awarded, most of which were granted by junior colleges.

Minnesota colleges and universities granted 2.3 per cent of all baccalaureate and first professional degrees which were awarded in the nation during the year, 1.6 per cent of the master's degrees, and 2.6 per cent of the doctorate degrees. In 1967, 1.6 per cent of the 18-21 year olds in the United States resided in Minnesota.

Another indication of the high level of productivity of Minnesota higher education is reflected in the rate of completions, or degrees awarded, per undergraduate student enrolled. In the 1966-67 year, the completion rate in Minnesota colleges and universities, as estimated by comparing the number of baccalaureate degrees awarded with the number of freshmen four years earlier, was 65.5 per cent.[22]

The productivity of Minnesota colleges and universities can be improved, and variation exists among individual institutions. However, productivity of Minnesota higher education (as measured by numbers of degrees awarded, the proportion of graduates produced by all colleges and universities in the nation, and completion rates per student enrolled) is approaching a level at which relatively high levels of input will be needed to increase productivity.

QUALITY

Quality is extremely difficult to assess empirically because both educational purposes and the evaluative criteria are complex. The social and behavioral sciences have not as yet produced adequate tools for accurate and objective measurement of the total impact of educational experiences upon the future effectiveness, efficiency, and well-being of the individual. Therefore, consideration of the quality of colleges and universities necessarily depends heavily upon professional judgment and assessments of factors which facilitate or are believed to be directly associated with quality.

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[22] The rate of completions was 67.0 per cent in private institutions of higher education and 64.9 in public colleges and universities.

Accrediting agencies have as their purpose the determination of whether or not institutions of higher education meet standards which are considered necessary for minimal quality. Most colleges and universities in Minnesota are either accredited or making progress which should assure accreditation by a recognized agency in the near future.

Private institutions of higher education vary greatly and indications of the average quality of private colleges and universities may not be particularly useful. It should be noted that several of Minnesota's private institutions of higher education are considered to be among the very best of their type. It should also be noted that as costs continue to rise, maintaining quality will become increasingly difficult for all private institutions unless new major sources of financial support are found or the level of contributions from present sources is substantially increased.

The quality of graduate programs in major universities has been rated in various ways.[23] Graduate programs of the University of Minnesota have typically been ranked among those of the top 20 universities in the country. While the University of Minnesota tends to be ranked among the top ten in terms of graduate programs when only public universities are considered, the University of Minnesota is consistently outranked by the University of California, University of Illinois, University of Michigan, and University of Wisconsin.

A significantly high relationship has been found to exist between the level of faculty salaries and ratings of quality in higher education.[24] The University of Minnesota, the state colleges and the state junior colleges all hold about the same relative position when their salaries are compared nationally with those of institutions of similar type. All three systems rank at about the median on distributions of median salaries of institutions of similar type. In 1967-68, the national median salary in public universities with enrollments of more than 10,000 was $11,290, while the median salary in the University of Minnesota was $11,148. The national median salary in public colleges was $9,657, while the median in Minnesota state colleges was $9,249. In public junior colleges, the Minnesota median was $9,081, while the national public junior college median was $9,165.[25]

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[23] See, e.g., Allan M. Carter, *An Assessment of Quality in Graduate Education,* Washington, D.C.: American Council on Education, 1966. Albert H. Bowker, "Quality and Quantity in Higher Education", *Journal of the American Statistical Association,* 60, 1-5, March 1965. Bernard Berelson, *Graduate Education in the United States,* New York: McGraw-Hill Book Company, 1960.

[24] Allan M. Carter, *An Assessment of Quality in Graduate Education.*

Although it is not as high as the relationship with faculty salaries, a significant relationship has also been found between library resources and ratings of quality. The University ranks among the top 20 universities of the nation in library resources.[26] Neither the state colleges nor the state junior colleges meet minimum standards of the American Library Association for institutions of their types. The state colleges currently fall short of the minimum number of volumes which the Association requires by approximately 600,000 volumes, and the state junior colleges have a deficiency of approximately 150,000 volumes.

A third measure which is often used in judging the quality of colleges and universities is the percentage of faculty members who hold advanced degrees. It should be emphasized that some of the world's greatest scholars and teachers have not held earned graduate degrees and that a doctorate degree is no guarantee of future accomplishments either in scholarly productivity or in quality of teaching. Therefore, the percentage of faculty who hold advanced degrees is only a general indication of faculty quality.

The percentages of full-time faculty members who hold various levels of degrees in each of the several types of Minnesota colleges and universities are presented in Table IV.[27]

TABLE IV

PERCENTAGES OF FULL-TIME PROFESSIONAL PERSONNEL AT VARIOUS EDUCATIONAL LEVELS

	Baccalaureate Degree	First-Professional Degree	Master's Degree	Doctorate Degree
Private Junior Colleges	35.1	2.7	56.8	5.4
State Junior Colleges	12.9	0.9	85.3	0.9
Private Colleges	10.5	1.1	51.9	36.5
State Colleges	5.0	0.6	65.5	28.9
Private Professional Schools	8.3	22.2	13.9	55.6
University of Minnesota	10.0	6.5	23.7	59.8
Total Private Institutions	11.5	1.6	51.3	35.6
Total Public Institutions	8.8	4.2	42.5	44.5
TOTAL	9.6	3.4	45.0	42.0

The per cent of faculty who hold an earned doctorate degree in the state colleges is lower than desirable. Again, there are wide variations among Minnesota public and private institutions of higher education.[28]

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[25] An analysis of faculty salaries in Minnesota colleges and universities appears in *Planning Report 4: Professional Personnel in Minnesota Higher Education*, Minnesota Higher Education Coordinating Commission. National data are from *Salaries in Higher Education, 1967-68*, National Education Association.

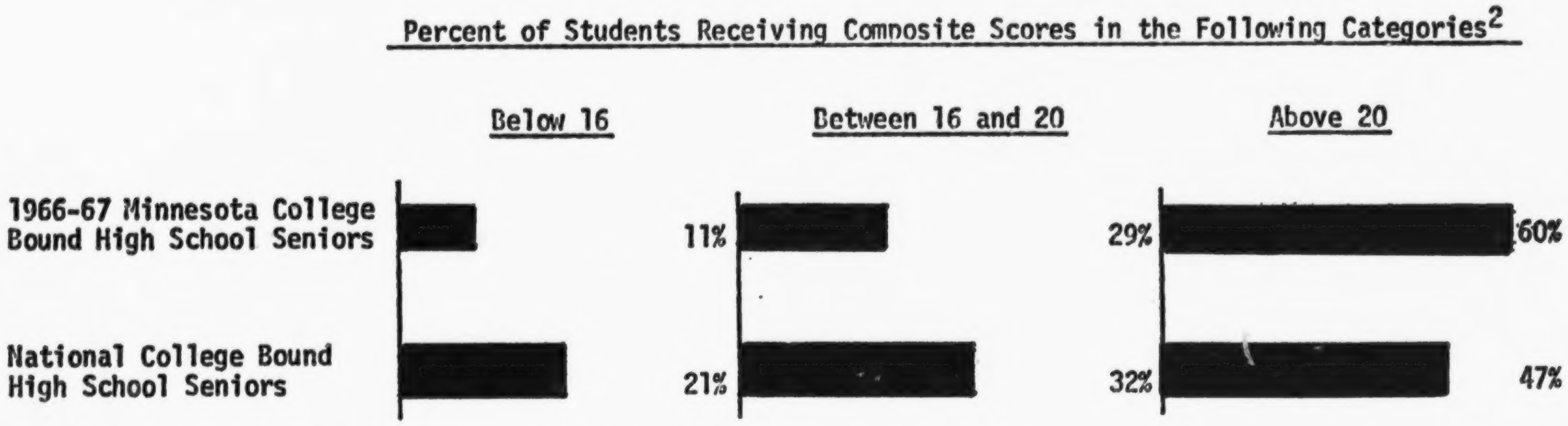
[26] Allan M. Carter, *An Assessment of Quality in Higher Education.*

[27] Minnesota Higher Education Coordinating Commission, *Planning Report 4: Professional Personnel in Minnesota Higher Education.*

Another factor which is sometimes associated with institutional quality is the pattern of ability levels of students in an institution.[29] Figure V shows the distribution of freshman student ability levels as reflected by scores on American College Testing Program examinations for Minnesota college bound high school seniors. National averages are also shown. These data indicate that, as compared with national distributions, the Minnesota college bound group includes a greater percentage of students in the upper ability levels and a smaller percentage or proportion of students in the lower ability levels.

The factors discussed above tend to suggest that quality in Minnesota higher education is relatively high, particularly at the University of Minnesota and several of the private colleges. However, some serious deficiencies have been indicated. These deficiencies must be corrected if Minnesota residents are to have the advantages of post-secondary education of quality comparable to that in leading states. *The Commission recommends that it be the policy of the state to provide post-secondary education at the highest quality feasible and that all policies, plans, and programs be accordingly developed and maintained.*

FIGURE V
DISTRIBUTIONS OF 1966-67 MINNESOTA COLLEGE BOUND HIGH SCHOOL SENIORS COMPARED TO NATIONAL COLLEGE BOUND HIGH SCHOOL SENIORS[1]



[1] American College Testing Program.

[2] These composite scroes are based upon the result of four tests which are designed to measure ability to perform the kinds of intellectual tasks college students are required to perform. These tests include the following: English usage, mathematics usage, social studies reading and natural science reading. The results of these tests are given in standard scores with a range from 1 to 36.

The most serious deficiency which must be corrected in order to improve quality in Minnesota higher education is in the area of faculty salaries. With faculty salaries at the median, or mid-point, of salaries at all institutions of similar type throughout the nation, Minnesota public institutions can compete effectively for faculty with the colleges and universities whose median salaries rank in the lower one-half on national distributions. Unfortunately, Minnesota institutions cannot compete effectively for faculty with institutions of similar type which rank in the upper one-half on distributions of median salaries. The implications are obvious. Minnesota cannot expect to provide its residents with education of quality comparable to that provided by leading states unless its institutions can compete effectively for faculty with those institutions which rank in the upper one-half on national distributions. The quality of its faculty is the single most important factor in determining the quality of an institution.

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[28] For more detailed information on highest degrees held by faculty in individual colleges and universities of Minnesota (both public and private), see *Planning Report 4: Professional Personnel in Minnesota Higher Education*, Minnesota Higher Education Coordinating Commission.

[29] This factor is, at best, questionable since it focuses upon the ability which students bring to an institution rather than upon the change which the institution produces in the student.

The Commission believes that higher education of the quality that is desired, deserved, and needed by Minnesota residents can be provided by Minnesota's public institutions only if they have the ability to compete effectively for faculty with institutions which rank in the upper one-half on national salary distributions for institutions of similar type. *Therefore, the Commission recommends that it be the policy of the state to establish and maintain faculty salaries at the levels necessary for Minnesota institutions to rank not lower than the third quartile (75th percentile) on national distributions of salaries in institutions of similar type.*

Implementation of the above recommendation will not provide the ability for Minnesota institutions of higher education to compete effectively for faculty with all institutions. The proposed policy will provide the ability for Minnesota colleges and universities to compete effectively for faculty with at least half of those institutions who rank in the upper one-half on national distributions.

The low percentages of faculty who hold earned doctorate degrees in the state colleges must be increased to assure adequate levels of quality. Increasing the percentage with advanced degrees will require effective attention of institutional officers as well as the availability of funds for achieving recommended faculty salary levels. *The Commission recommends that all parties concerned make a conscientious effort to increase the percentage of faculty who hold a doctorate degree to a percentage in the state colleges which is comparable to the percentage in institutions of similar type.*

Adequacy of libraries ranks second only to the quality of faculty in determining the quality of a college or university. An experimental program for testing the feasibility and problems of making resources at the Twin Cities campus of the University of Minnesota more readily accessible to faculty and students in state colleges, state junior colleges, and private colleges will be launched in January 1969. The whole problem of library resources and their effective utilization will be studied in some depth by the Commission during the next year. These two efforts should yield valuable information and recommendations for the 1971 Legislature. However, regardless of the results of these future efforts, present analyses reveal situations so serious as to require immediate attention.

In order to provide minimum library resources necessary for adequate quality in Minnesota state institutions of higher education, the Commission recommends:

A. *The library of the University of Minnesota should continue to be strengthened in order that the greatest source of scholarly materials and recorded knowledge in the state may be continuously improved.*

B. *A deficiency of approximately 600,000 volumes in the state colleges should be corrected during no more than two biennia, beginning in 1969, which will require, in addition to expenditures to continue the present acquisition rate, special appropriations of $2,850,000 for each of the next two biennia.*

C. *A deficiency of approximately 150,000 volumes in the state junior colleges should be corrected during no more than two biennia, beginning in 1969, which will require, in addition to expenditures to continue the present acquisition rate, special appropriations of $562,500 for each of the next two biennia.*

ECONOMY

Expenditures for instruction and directly-related activities are relatively low in view of the number of students who are educated in Minnesota colleges and universities. In 1967-68 academic year, average expenditures for instruction and departmental research per full-time equivalent student were $1,318 in private colleges and universities and $915 in public institutions of higher education. The expenditures varied widely among individual private institutions.

Among public institutions, the average instructional expenditures per full-time equivalent student by type of institution were $677 in the state junior colleges, $836 in state colleges and $1,111 in the University of Minnesota.[30] As compared with per student costs in other states, costs for Minnesota institutions are relatively low.[31]

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[30] Minnesota Higher Education Coordinating Commission, *Planning Report 5: Current Operating Revenues and Expenditures in Minnesota Higher Education.* Differences in the per student cost among the three types of institutions tend to reflect differences in the levels of students enrolled. Costs per student by level are not presently available.

It should be noted that the above costs, which are based upon the most complete information available, provide only a general indication of the average cost for students in all programs and at all levels in each type of institution. Since the mix of students among lower division, upper division, and graduate levels varies significantly from one type of institution to another, average costs among the types of institutions cannot be compared directly. It is obvious, for example, that preparation leading to a Doctor of Philosophy degree in chemistry is more costly than the first two years of study leading to a Bachelor of Arts degree. Similarly, costs vary among programs within each level. The cost of graduate instruction in medicine, for example, is generally recognized to be greater than the cost of graduate instruction in political science.

The factors discussed in this section indicate that Minnesota higher education is generally effective, particularly in terms of productivity and economy. Implementation of the Commission's recommendations for improving factors associated with quality will strengthen the effectiveness of Minnesota higher education significantly.

Appropriate utilization of instructional technologies offers promise of improved effectiveness on all three factors of productivity, quality, and economy. The 1965 Legislature took an important step in providing for utilization of instructional television by appropriating $150,000 to finance an inter-institutional television feasibility study which was conducted under the supervision of the Board of Regents. The 1967 Legislature took a second step by providing funding for partial implementation of the feasibility study recommendations. As a result, two experimental regional production centers have been established.

While the Commission has not replicated the television feasibility study, the conclusions of the study appear to be valid and the study

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[31] Ample comparable data on instructional costs is not readily available since definitions vary. However, the following data provide a general indication of how Minnesota compares.

In 1966-67, the most recent year for which comparative data were available, costs per FTE student in Minnesota were: state junior colleges, $554; state colleges, $760; University of Minnesota, $993; private colleges, $1,187.

Unit costs of instruction for the year 1966-67 in Virginia were as follows: four-year colleges, $787, two-year colleges, $725. (*Financing Virginia's Colleges, 1966-67,* State Council of Higher Education for Virginia, p. 22.)

Costs of instruction per full-time student in California during 1965-66 were as follows: state colleges, $957, University of California, $1,994. The national average for public junior colleges that year was $779. (*Study of Income for Public Higher Education,* Coordinating Council for Higher Education, May 1968, p. 36.)

Unit costs for teaching of students at Wisconsin public institutions during 1966-67 were as follows:

University of Wisconsin	Freshman-Sophmore	Junior-Senior	Graduate-Professional
Madison	$769	$1108	$2018
Milwaukee	$762	$1355	$1419
Centers	$894		
State Universities	$846	$1125	$1656

(*A provisional Long-Range Plan for Higher Education in Wisconsin,* The Coordinating Committee for Higher Education, January, 1967, p. 62.)

recommendations sound. No evidence to the contrary has emerged since the study was completed. Accordingly, *the Commission recommends that the 1969 Legislature proceed with funding for implementation of the recommendations of the inter-institutional television feasibility study as presented to the 1967 Legislature.*

The problem of achieving appropriate utilization of computers for both teaching and research is as complex as the instructional television question. While Minnesota institutions have made significant progress in utilizing computers, the potential benefits from the rapidly developing computer technology have not been fully achieved. In order to assess both the potential and the means for achieving potential benefits more thoroughly, the Commission, with the assistance of a technical advisory committee, has undertaken a study of present and potential uses and benefits of computers in Minnesota higher education.

STRUCTURE OF MINNESOTA POST-SECONDARY EDUCATION

That post-secondary education has served Minnesota well is evident. The people of the state have good reason to be proud of the institutions which have been established at an increasing rate, of the able and productive citizens which have been educated at a rapidly increasing rate, of the many contributions to knowledge which can be attributed to Minnesota higher education, and of the varied services which institutions have provided. Whether future generations will be justified in feeling similar pride will depend upon the foresight and accomplishments of this generation in providing post-secondary education which is appropriate for future needs and conditions.

In determining a structure to meet present and emerging needs for higher education, due consideration must be given to that which already exists. Institutions and arrangements which have been built with large investments and years of human effort cannot be easily changed. We are, to some extent, captives of history. However, present needs for higher education and the level of investment in higher education have reached a magnitude far beyond the requirements of past generations. What was adequate in previous decades is no longer satisfactory.

Marked unevenness in quality among institutions and programs, confusion about responsibilities among institutions and types of institutions, imbalances in the distribution of enrollments and programs among institutions, the proliferation of institutions and programs without clear conception of an ultimate pattern—these are among the conditions which must be avoided through continuing comprehensive planning, coordination of effort, and policies which are consistent with predetermined goals and objectives. Such conditions also emphasize the need for continuing attention to the structure of Minnesota higher education—that is: (1) the way in which the post-secondary educational enterprise should be organized for effectiveness and economy of effort in meeting needs, (2) the way in which responsibilities should be divided among the various segments of the enterprise, (3) the way in which the enterprise should be governed, and (4) the way in which policies should be formulated, decisions made, and planning accomplished.

THE PRESENT STRUCTURE

At present, there are 60 colleges and universities in Minnesota. In addition, there are 26 area vocational-technical schools and 30 private vocational and trade schools which are listed with the State Department of Education. Of the 60 colleges and universities, 33 are privately-controlled, and 27 are publicly-controlled. Including the area vocational-technical schools, there are 53 public post-secondary institutions.

The 26 area vocational-technical schools which offer vocational and technical programs of two years or less are operated by local school districts under the supervision of the State Board for Vocational Education, which is the State Board of Education. The State Junior College Board operates 17 junior colleges (with one additional planned) providing two years of study for transfer to a baccalaureate degree and also offering vocational-technical and other terminal programs.

The State College Board governs six senior colleges which offer programs leading to the master's degree, but which focus primarily upon four-year programs leading to the baccalaureate degree. The Board of Regents governs one complex multi-purpose university which provides offerings from freshman through post-doctoral levels in a wide variety of fields, one institution offering undergraduate and master's degree level programs, one institution which provides four-year undergraduate programs, and one two-year technical institution (with plans for a second) which emphasizes agriculture and business.

The Higher Education Coordinating Commission has been given responsibility for the voluntary coordination of the various segments of post-secondary education through comprehensive planning and through recommendations to boards of post-secondary institutions, to the governor, and to the legislature.

REFINING THE STRUCTURE

While sweeping changes and reorganization in Minnesota post-secondary education could be suggested, it is the judgment of the Commission that the present structure can serve the interests of the state in the immediate future and that the state should build upon what already exists. This decision is not intended to preclude the Commission from making recommendations for major reorganization at a later time. However, the probable implications, both positive and negative, of any major reorganization must be thoroughly studied. Such reorganization should not be entered into prematurely. Important modifications which will refine and strengthen the structure of Minnesota post-secondary education are discussed in this section.

MORE EFFECTIVE COORDINATION

Minnesota has moved cautiously in providing for the coordination of post-secondary education. A statutory coordinating agency was not created until 1965. Responsibilities of the agency which was created by the 1965 Legislature, the Minnesota Higher Education Coordinating Commission, are stated generally and emphasize voluntary coordination through planning. It is the judgment of the Commission that moving cautiously and focusing upon coordination through planning, rather than through control, has been wise. It is also the judgment of the Commission that effective coordination of post-secondary education is becoming increasingly more important as needs for advanced education continue to expand and associated costs continue to rise.

While comprehensive planning should continue to be the central thrust of the Higher Education Coordinating Commission, it is evident that effective coordination ultimately will require a delineation of responsibilities which focuses the attention of the Commission more directly upon those matters which determine the direction of developments of public post-secondary education: program planning and budgeting. In the previous section on "Making Opportunities Available," it was proposed that the 1969 Legislature assign specific responsibility to the Commission for coordinating post-secondary programs through a program review procedure. In order to implement this proposal, *the Commission recommends that the 1969 Legislature amend Minnesota Statutes 136A.04 by adding subsection (d) to read as follows: "review and express approval or disapproval upon all plans and proposals for new or additional programs of instruction or substantial changes in existing programs to be established in, or offered by, the University of Minnesota, the state colleges, the state junior colleges, and public area vocational-technical schools or centers, and periodically review existing programs offered in or by the above institutions and to recommend discontinuing or modifying any existing program, the continuation of which is judged by the Commission as not being in the best interests of the State; the Commission shall file a formal report with the legislature on the establishment or continuation of any program without Commission approval."* A more complete statement of the need for and nature of program review responsibilities appears in Appendix B.

The ways in which and extent to which the Commission should become involved in budgeting will be studied in greater depth during the next biennium. The Commission will report its findings and recommendations on budget coordination to the 1971 Legislature.

VOCATIONAL SCHOOLS AND JUNIOR COLLEGES

One of the most evident potential sources of inappropriate duplication of effort exists in those communities in which are located more than one institution which is charged with providing opportunities for post-secondary education of two years or less within commuting distance of the residents of the area. While both junior colleges and area vocational-technical schools are maintained throughout the state, the problem is most serious when both types of institutions are operating in areas of limited population and in communities with populations of less than 10,000.

Through coordination of program offerings (as discussed above) and of the establishment of new institutions (as proposed in the section on "Making Opportunities Available"), the Commission can assist each type of institution to focus its efforts upon the distinctive role which seems most appropriate in terms of the availability of other institutions in the area and the total needs to which commuting opportunities should be directed. The missions, programs, and services of the two types of institutions can be coordinated in each area of the state.

The Commission recommends expanded cooperation between State Junior Colleges and Area Vocational-Technical Schools which are located in the same community. This would involve: (1) joint planning to avoid overlapping programs; (2) sharing the time of instructors and administrators where desirable; (3) allowing students enrolled in one institution to take some work in the other institution, where practical; (4) use of auxiliary facilities, such as cafeterias, libraries, auditoriums, and gymnasiums by students of both institutions to the largest extent possible; and (5) operating joint extra-curricular programs. When new facilities are to be constructed, they should be located close together and designed for maximum cooperative use.

The Commission recommends that all institutions which conduct vocational-technical programs follow, to the largest extent possible, a policy of qualifying for reimbursement from federal and state funds administered by the State Board for Vocational Education.

If a local school board expresses the desire to merge or to combine the vocational-technical school and junior college program offered in the community, the Commission recommends that this be accomplished by the local school district discontinuing the area vocational-technical school and the junior college taking over the program after program proposals have been submitted to and received favorable review by the Minnesota Higher Education Coordinating Commission and the State Board for Vocational Education.

INSTITUTIONAL MISSIONS

Meeting the varied and expanding needs for post-secondary education and maintaining necessary quality within the limitations of available resources can be achieved only if responsibilities are realistically distributed among and within the several components, or systems, of Minnesota post-secondary education. The levels of funding required to attain and to maintain quality would be impossible to achieve if all institutions undertook responsibility for providing every educational opportunity.

Although the Higher Education Coordinating Commission must devote some attention to the mission, or role and scope, of individual institutions, if it is to perform effectively in reviewing programs and in participating more directly in the budgeting process, the primary concern of the Commission is, and should continue to be, with the role of each of the several systems. More specific attention to the role and scope of individual institutions or campuses must come from the boards of control which are responsible for the operation of the institutions within each system. It should be carefully noted that missions of institutions or systems of institutions must reflect present and future conditions rather than past conditions. The appropriateness of the role of all institutions must be continuously assessed, and change must be initiated as conditions change. Nonetheless, clear understanding of the future division of responsibilities and the role and scope of the various components of post-secondary education is essential if post-secondary education in Minnesota is to achieve maximum total effectiveness in terms of productivity, quality, and economy.

In order to facilitate the achievement of maximum effectiveness, the Commission recommends that the responsibilities and missions of the several components of Minnesota post-secondary education be clarified as follows:

Private Trade and Vocational Schools

The 30 private vocational and trade schools which are listed with the State Department of Education were serving a total of 5,600 students in the fall of 1968. It is assumed that these institutions will continue to limit their offerings to short-term programs which provide specialized training for specific occupational activities. In view of the limited nature of the services which these institutions will seek to provide and, in many instances, the need to offer only those programs which can be self-supporting (or nearly so), private vocational and trade schools will continue to expand more slowly than other components of Minnesota post-secondary education.

Area Vocational-Technical Schools

The efforts of public area vocational-technical schools should continue to be centered upon the teaching function and those schools should continue to offer lower division level programs which provide training for initial entry and retraining for advancement and adjustment in the world of work. No change in the general nature or level of program offerings is recommended. As lower division enrollments and the need for vocationally-focused opportunities increase, more careful attention should be devoted to allocation of programs among area vocational-technical schools and junior colleges.

State Junior Colleges

The state junior colleges should continue to provide comprehensive commuting opportunities and to offer two years of work applicable to the baccalaureate degree, technical programs leading to the associate degree, general studies programs leading to the associate degree, vocational programs leading to the vocational certificate, continuing education for adults, and community service programs. Efforts of the state junior colleges should be aimed at providing, within the commuting area of each college, approximately equal distribution between terminal occupational programs (including both those leading to an associate degree and those leading to a certificate) and programs which provide the first two years of study which may be applied to meeting requirements for a baccalaureate degree in a four-year institution. As commuter institutions, junior colleges should develop general admissions policies which give priority to high school graduates whose place of residence is within 35 miles of the junior college.

Private Institutions of Higher Education

Private junior colleges, colleges, universities, and professional schools presently accommodate about 24 per cent of the college and university enrollments in Minnesota. While their enrollments will continue to grow significantly, the percentage of the total enrollment to be accommodated in private institutions is expected to continue to decline to 20 per cent before stabilizing in 1980. The distribution of the enrollment in private institutions, 59 per cent at the lower division, 40 per cent at the upper division, and one per cent at the graduate level, is not expected to change significantly.

The State Colleges

While the state colleges should continue to be primarily "teaching" institutions, the proportion of effort which they devote to organized research and to public service should be increased.

Four-year undergraduate programs leading to the baccalaureate degree should continue to be the central focus of the instructional programs of state colleges, but relatively greater attention to the upper levels of instruction should accompany a shifting in the enrollment distribution to 56 per cent in the lower division, 32 per cent in the upper division, and 12 per cent at the graduate level by 1980. The Commission supports the development of an inter-institutional cooperative arrangement under which students in state colleges could work toward doctoral programs. It is suggested that in view of the complexity of joint doctoral degrees, graduate students, with the advice of faculty members from both the University of Minnesota and the state colleges, might take advantage of course offerings and other doctoral program components from both institutions. Such programs could lead to a doctoral degree at either institution.

At present, none of the state colleges offer doctorate degrees. The 1967 Legislature directed the Minnesota State College Board to conduct a study to investigate the development of doctoral programs at the state colleges and to report by December 1, 1968. The legislature also authorized the Board to establish doctoral programs at the state colleges after July 1, 1969. The Board has initiated a doctoral study and is awaiting its findings.

The University of Minnesota System

As the only comprehensive graduate institution and the only doctoral-granting institution in the state, the University of Minnesota has a unique responsibility for leadership. It must carry most of the burden of meeting increasing demands for advanced graduate and professional education. It must also be the center of research activity and a major source of competent faculty members to staff other Minnesota institutions.

In order that the University of Minnesota can most effectively fulfill its unique responsibilities, the resources of the University should be focused as intensively as possible upon those functions which only it will perform. Extreme care must be taken to insure that the resources and energies of the University are not diverted to functions which can be performed well by other institutions. Therefore, the University should increase the proportion of effort which it devotes to graduate studies.

By 1980, the University should make significant progress in establishing an enrollment distribution of 34 per cent in the lower division, 33 per cent in the upper-division, and 33 per cent at the graduate level. A corresponding shift in the expenditure of the resources and effort of the University should be accomplished in order that 50 per cent is devoted to teaching and departmental research, 35 per cent to organized research, and 15 per cent to public service activities.

THE INVESTMENT IN POST-SECONDARY EDUCATION

Financing Minnesota post-secondary education requires a large investment. Current operating expenditures by Minnesota's colleges and universities, excluding building costs, totaled $314,385,899 during Fiscal Year 1968. Of this amount, $246,806,818, or 79 per cent, was expended for meeting current operating costs of public colleges and universities. Approximately $7,500,000 was expended for current operating costs of post-secondary programs in public area vocational schools.

SOURCES OF FUNDS

Funds for supporting current operations of Minnesota colleges and universities come from a variety of sources. Of the revenue for educational and general purposes during Fiscal Year 1968, excluding revenue for student financial aids and auxiliary enterprises, more than one-half came from state appropriations and student tuition and fees. State appropriations provided 29.3 per cent of current revenues for educational and general purposes, while student tuition and fees provided 22.6 per cent. For state-supported colleges and universities, state appropriations provided 36.0 per cent, federal grants 21.4 per cent, tuition and fees 13.9 per cent, private gifts 3.4 per cent, endowment earnings 1.2 per cent, and other sources 24.1 per cent. Among private colleges and universities, tuition and fees provided 61.0 per cent of current operating revenues for educational and general purposes, private gifts provided 20.1 per cent, endowment earnings 6.6 per cent, federal grants 4.2 per cent, and other sources 8.1 per cent.[32]

COMPARISONS WITH OTHER STATES

Minnesota's investment of state tax funds in college and university education has been increased by 170 per cent since Fiscal Year 1961. While this represents a rapid increase, it lags behind the average increase for all 50 states, which was 233 per cent during the same period. When Minnesota is compared with the six other states which have Big Ten universities plus North Dakota and South Dakota, Minnesota ranks fifth among the nine states in the rate of increase in the investment of tax funds for college and university education, as is shown in Figure VI.

Further insight into how Minnesota compares with other states in the support of college and university education with state funds may be gained from the information presented in Table V which presents the relative rank of Minnesota, the six other states which have Big Ten universities, and North Dakota and South Dakota according to

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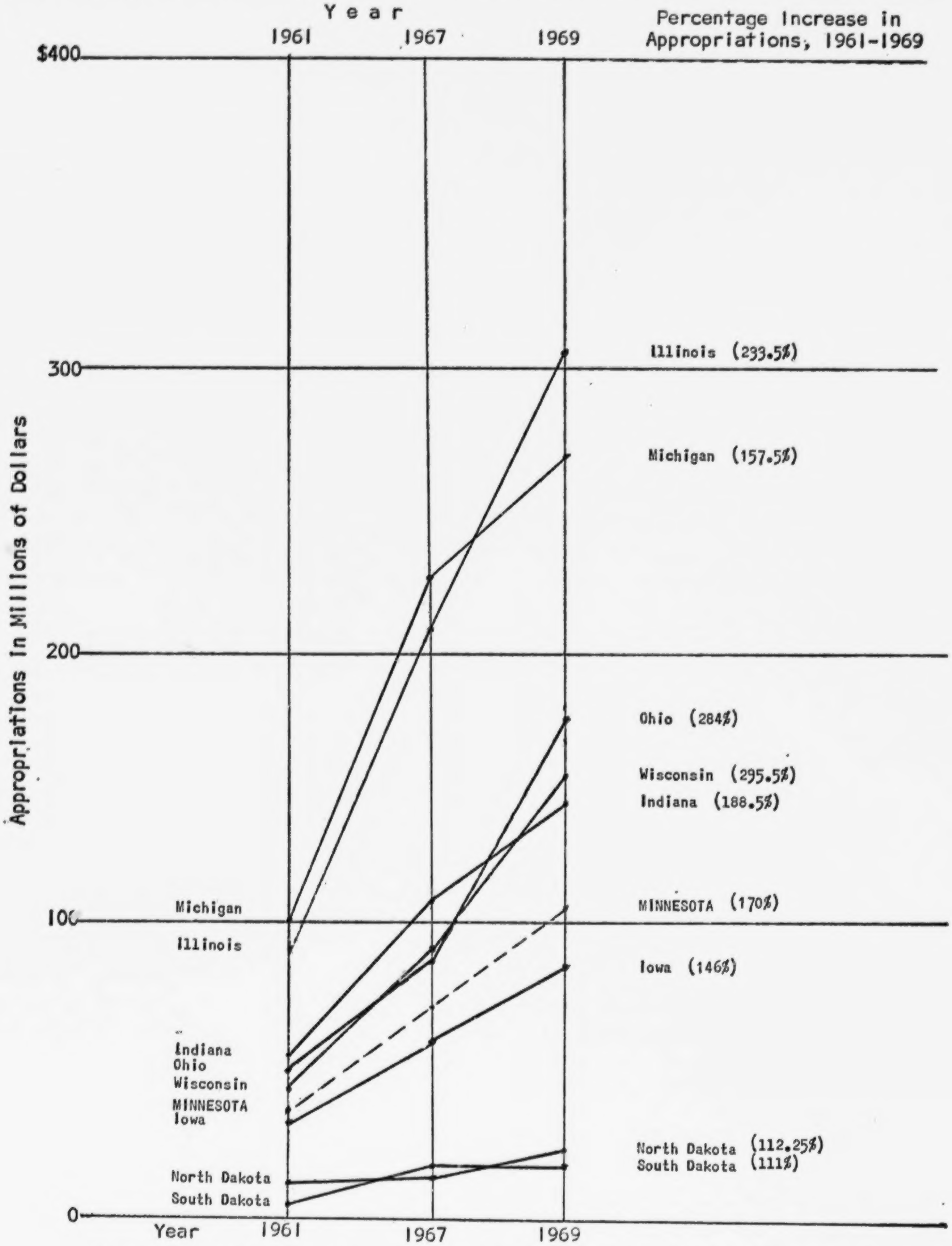
[32] Minnesota Higher Education Coordinating Commission, *Planning Report 5: Current Operating Revenues and Expenditures in Minnesota Higher Education.*

FIGURE VI

APPROPRIATIONS OF STATE TAX FUNDS FOR OPERATING EXPENSES OF HIGHER EDUCATION IN NINE MIDWEST STATES FOR SELECTED FISCAL YEARS, 1961-69



Source: M. M. Chambers, *Appropriations of State Tax Funds for Operating Expenses of Higher Education*, 1968-69; Office of Institutional Research, National Association of State Universities and Land Grant Colleges.

TABLE V

PERSONAL INCOME AND STATE APPROPRIATIONS FOR PUBLIC HIGHER EDUCATION: COMPARATIVE AND NATIONAL RANKINGS FOR NINE MIDWEST STATES

	Per Capita Personal Income 1967		Appropriations Per Full-Time Student in Public Four-Year Institutions 1967-68		Per Capita State Tax Funds for Operating Expenses of Higher Education 1966-67		Per Cent of Personal Income as Represented by Tax Funds for Higher Education Operating Expenses 1966-67		Per Cent of Personal Income as Represented by Total Tax Funds for Higher Education 1966	
	Nine-State	National	Nine-State	National	Nine-State	National	Nine-State	National	Nine-State	National
Illinois	1	4	1	3	4	16	8	33	8	42
Iowa	7	22	2	6	2	9	3	15	6	18
Indiana	4	17	3	15	6	18	6	25	7	19
Michigan	2	13	4	18	5	17	7	27	5	17
MINNESOTA	6	21	6	34	6	18	5	22	4	16
Ohio	3	16	7	42	9	45	9	47	9	44
North Dakota	9	41	9	48	3	10	1	3	1	6
South Dakota	8	38	8	46	8	23	3	15	2	8
Wisconsin	5	19	5	20	1	7	2	14	3	11

Source: *Rankings of the States, Selected Years,* Research Report 1968-R1, National Education Association, 1968.
Appropriations of State Tax Funds for Operating Expenses of Higher Education, M. M. Chambers, 1967-68.
Opening Fall Enrollment in Higher Education, U.S. Department of HEW, Office of Education, 1967-68.
Fiscal Facts for Minnesotans, 1968, Minnesota Taxpayers Association, December 1968.

(1) appropriations per full-time student in four-year institutions, (2) per capita state tax funds for operating expenses of colleges and universities, (3) per capita personal income, (4) per cent of personal income as represented by state tax funds for college and university operating expenses, and (5) per cent of personal income as represented by state tax funds for all higher education expenditures. National rankings of the nine states are also presented.

While Minnesota ranks about at the mid-point of the distributions of the nine states on the per cent of personal income which is represented by both state tax funds for operating expenses of colleges and universities and total state tax funds appropriated for college and university education, Minnesota ranks below the mid-point on all of the other factors.

Rankings of sixth among the nine states and 34th among all 50 states in state appropriations per full-time student in public four-year colleges and universities reveal that Minnesota is not providing the level of financial support necessary for Minnesota colleges and universities to maintain programs of a quality comparable to those in leading states.

Minnesota's strong effort to provide the funds required to meet needs for college and university education is reflected in the fact that Minnesota ranks higher on per capita state tax funds for college and university operating expenses (sixth among the nine states and 18th among all 50 states) than on per capita personal income (sixth among the nine states and 21st among all 50 states. However, Minnesota's effort is not as great as the efforts of its neighboring states. When compared with its four neighboring states, North Dakota, South Dakota, Iowa, and Wisconsin, Minnesota ranks last in the per cent of personal income represented by state tax funds for current operating expenses of colleges and universities and fourth among the five states in the per cent of personal income represented by total state tax funds for higher education.

Since Minnesota ranks at about the mid-point among the 50 states in resources (21st of the 50 states on per capita personal income), the extent to which Minnesota provides the financial support necessary to maintain higher education which is comparable to that offered in leading states would appear to depend heavily upon the effort which Minnesota residents wish to put forth. In view of the efforts of neighboring states, it appears that the rate of investment in higher education could be increased in Minnesota if the citizens of the state assign a sufficiently high priority to post-secondary education.

INCREASING THE INVESTMENT

Even if Minnesota does not make effort necessary to increase its relative ranking on per student support of higher education, increasing enrollments and rising costs will require larger state appropriations of funds for at least the next several biennia. The increasing proportion of college and university enrollments in the more costly graduate and professional programs will increase the need for larger state appropriations.

The members of the Commission are firmly convinced that the future economic and social progress of Minnesota and its residents depends heavily upon the adequacy of post-secondary education. The members of the Commission are also firmly convinced that the people of the state desire quality post-secondary education for Minnesota youth. Therefore, it is without reluctance that the Commission has made recommendations which will require larger investments of tax funds in post-secondary education.

Implementation of the Commission's recommendation that the median faculty salaries in Minnesota public institutions be maintained at a level equal to the third quartile on national distributions of median faculty salaries in public institutions of similar type will require faculty salary increases for Fiscal Year 1970 of 34 per cent for the University of Minnesota, 32 per cent for the state colleges, and 29 per cent for the state junior colleges. In order to maintain the recommended level, an additional increase of 6.7 per cent for Fiscal Year 1971 will be required. Detailed information on salary levels and necessary increases appears in Appendix G.

To upgrade the libraries of state colleges and state junior colleges to minimum standards of the American Library Association during the two biennia will require a continuation of present expenditure rates for libraries, *including* "supplements" allocated for that purpose, plus special appropriations for the acquisition of books in the amounts of $2,850,000 per biennium for the state colleges and $562,500 per biennium for the state junior colleges. These figures *do not* include cataloging, shelving, and processing costs. Detailed information on expenditures necessary to correct existing deficiencies in state college and state junior college libraries is presented in Appendix H.

Construction of buildings for the campuses of the six new junior colleges which have been recommended will require an investment of $9,518,000, implementation of the Commission's recommendation for study of needs and evaluation of alternatives for meeting needs in the seven-county metropolitan area will require an appropriation of $50,000 for the next biennium. Campus planning based upon recommendations of the study will require an appropriation of $500,000.

Expansion of the Minnesota State Scholarship Program to provide first year awards to 1,200 students each year of the biennium and to renew previous awards will require an appropriation of $1,000,000 for Fiscal Year 1970 and $1,750,000 for Fiscal Year 1971. Establishment of a program of grants to be awarded to disadvantaged Minnesota youth solely on the basis of financial need, as recommended by the Commission will require an appropriation of $600,000 for the next biennium.

The Commission has not been given responsibility for reviewing the budget requests of Minnesota's public institutions of higher education and has not done so. Therefore, the expenditures which are proposed above are not directly related to requests for appropriations as submitted by governing boards for the next biennium.

THE NEED FOR BETTER INFORMATION

Although the previous data comparing Minnesota's investment in college and university education is useful for making general observations about how favorably Minnesota's effort to support college and university education compares with the relative efforts of other states, this kind of data affords no indication of the amount of support which is required to provide needed programs of adequate quality and scope. While the comparative data suggest that Minnesota's investment of tax funds in higher education can and should be increased, the question of how such funds should be distributed among institutions and programs of post-secondary education remains unanswered.

During Fiscal Year 1967, total current operating expenditures in Minnesota public colleges and universities were made at the rate of $2,534 per full-time equivalent student, while the average amount expended by all public colleges and universities in the nation was $2,615. The average total current operating expenditure per full-time equivalent student in Minnesota's private colleges was $1,879, while the national average for private institutions was $3,414.[33] Data of this kind may suggest that the per student cost of maintaining institutions in Minnesota is below the national average, but these data reveal nothing about the actual costs of educating students. Total operating expenditures in most institutions include investments in all three post-secondary functions—teaching, research, and public service—as well as expenditures for auxiliary enterprises. The proportion of expenditures devoted to each of the three functions, however, will vary significantly among individual institutions. Moreover, expenditures to meet the costs of the teaching function must vary according to the proportion of students in an institution enrolled at each of the levels of instruction—lower division undergraduate, upper division undergraduate, master's degree level graduate, and doctoral level graduate —and in each of the program areas, such as in the humanities or the physical sciences.

In Fiscal Year 1968, Minnesota's public colleges and universities devoted 45.2 per cent of their expenditures for educational and general purposes to the teaching function (instruction and departmental research), while 28.8 per cent was devoted to organized research, and 26.0 to the public service function. Among private institutions, 95.3 per cent went to the teaching function, 2.3 per cent to organized research, and 2.4 to public service.[34]

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[33] IBID.

With the great differences between public and private institutions of the state in the proportion of expenditures which are devoted to the teaching function, judgments about the differential costs of educating a student in public and private institutions cannot be made on the basis of information derived by dividing total operating expenditures by the number of full-time students in each type of institution. The same problem exists in any attempt to compare costs of student education in Minnesota's public institutions with those of public institutions in other states.

THE COST OF INSTRUCTION

The per student cost of instruction in Minnesota colleges and universities has been estimated by relating full-time equivalent enrollments in the fall of 1967 to expenditures for the teaching function. These expenditures were determined on the basis of the most accurate information which the colleges and universities could provide for Fiscal Year 1968. Using this method, the average per student cost in public institutions was found to be $915, while the same cost in private colleges was $1,318. As one might expect, there are wide variations among the private institutions.

Per student expenditures for the teaching function in the three systems of public colleges and universities were found to be as follows: state junior colleges, $677; state colleges, $836; University of Minnesota, $1,111. It should be carefully noted that these figures represent the *average* per student expenditure for all students at all levels and in all programs. Since the mix of students both among levels and among types of programs varies quite significantly among the three public systems, direct comparisons of the cost of instruction are not possible. Given the mix of students among the various levels of instruction, it would appear that the costs of instruction may be quite comparable in the three public systems. However, thorough analysis of costs per student by type and level of program, which is not possible with the data which are presently available, could reveal significant differences among the three public college and university systems.

Nationally, the ratio of costs of instruction for lower division, upper division, master's and doctoral instruction has been estimated to be

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[34] IBID.

1:1.5:2.5:3.5.[35] Whether expenditures for instruction in Minnesota follow this pattern cannot be determined in the absence of data on expenditures by level of instruction.

IMPROVING THE BUDGETING PROCESS

In the past, very little effort has been devoted to analyses which permit determination of the costs of educating students at different levels of instruction ,the costs of maintaining various types of programs, or the relative costs of providing comparable programs for comparable students in different educational settings or institutions. It is the judgment of the Commission that the complex problem of meeting the expanding needs of the state for post-secondary education with limited funds and rising costs will require more careful analyses of the costs and amounts of support necessary for maintaining quality programs at all levels of instruction and in different institutional settings. The amount and kind of information which presently is made available to the governor and the legislature will not provide an adequate basis for reviewing budget requests and appropriating funds to support post-secondary education in the future.

Accordingly, *the Commission recommends that the governor and the legislature give serious consideration to establishing a more sophisticated budgeting system which reflects as accurately as possible the differential costs of instruction in the various program areas at each level of instruction and the nature of activity to be supported in the functions of research and public service.* In order to facilitate implementation of this objective, the Commission, in cooperation with institutions of the state, will strive to develop procedures for more thorough analyses of costs and necessary levels of support.

TUITION AND FEES

In both the public and private colleges and universities of Minnesota the cost of instruction is shared by the student and the institution. During Fiscal Year 1968, income from tuition and fees equaled about two-thirds, 66.1 per cent, of the total expenditures for the teaching function in private institutions and less than one-third, 27.7 per cent, of instruction costs in public institutions.[36] The difference in the proportion of instructional costs being borne by the student in the two types of institutions reflects the fact that public institutions receive state tax funds to support current operations.

Variation among the three public college and university systems in the proportion of instructional costs being borne by the student is small. The per cent of expenditures for the teaching function which is offset by income from tuition and fees in each of the systems was as follows: state junior colleges, 29.4, state colleges, 28.3, and University of Minnesota, 25.4.[37] While the matter of tuition and fee rates will require continuing assessment, it is the judgment of the Commission that students should be expected to provide a reasonable share of funds to support instruction. The Commission believes it is reasonable to expect students to assume about one-third of instructional costs, not to be confused with total operating costs.

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[35] Allan Carter, "Graduate Education and Research in the Decades Ahead," in Alvin C. Eurich, ed., *Campus 1980: The Shape of the Future in American Higher Education* (New York: Delacorte Press, 1968), p. 276.

[36] Minnesota Higher Education Coordinating Commission, *Planning Report 5: Current Operating Revenues and Expenditures in Minnesota Higher Education.*

Accordingly, *the Commission recommends that the policy of the state in determining tuition and fee rates should be to expect that income from tuition and fees will provide approximately one-third of the amount expended for the teaching function as represented by direct and indirect expenditures for instruction and departmental research.*

Students under 21 years of age presently bear no share of the cost of instruction in public area vocational-technical schools. While the Commission is not prepared at this time to recommend that tuition be required in these institutions, the inconsistent policy of requiring tuition for vocational, as well as other programs, in colleges and universities, but not requiring tuition in area vocational-technical schools, is troubling. The Commission is currently making a more thorough assessment of the total problem of tuition in public institutions and is studying factors such as: (1) experience in other states, (2) implications of differential tuition policies for vocational education and other post-high school education, (3) availability of loans and scholarships for all post-high school education.

It is the judgment of the Commission that the full utilization of state college and university resources throughout the entire year would be in the best interests of the state. The Commission also believes that more college and university students should be encouraged to take advantage of opportunities to make progress toward completion of their education during the summer term. Therefore, *the Commission recommends that the state's policy of requiring higher tuition rates for summer sessions than for other terms be discontinued.*

Utilization of all revenue sources which are available to the state's public institutions will be necessary to meet rising costs. *The Commission recommends that the boards of all state-supported institutions be encouraged and given the flexibility necessary to secure funds from federal and private sources for purposes which are consistent with the missions of their institutions.*

Although Minnesota's public and private colleges and universities had the advantage of federal funds in the amounts of $53 million in grants and $8.7 million in loans during Fiscal Year 1967, federal funds provided only 18.1 per cent of current operating revenue for public institutions and 3.7 per cent for private institutions.[38] Projected rising costs which will require an increasingly heavy state tax burden suggest that Congress should be encouraged to provide the necessary funds for augmenting the share of higher education costs to be supported with federal funds. *The Commission recommends that institutional officers as well as representatives of both the executive and legislative branches of state government continue and increase their efforts to encourage larger congressional appropriations to support higher education.*

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[37] IBID.

FINANCING PRIVATE INSTITUTIONS

One of the most perlexing problems which must be faced by Minnesota is that of financing private colleges and universities, which currently depend upon tuition and fees for income equal to two-thirds of their expenditures for the teaching function. While enrollments in private institutions have grown, the proportion of total Minnesota college and university enrollments in private institutions is declining rapidly. Unless major sources of increased support are soon found, rising costs, combined with their heavy reliance upon income from tuition and fees, will cause Minnesota's private institutions to be "priced out of the market."

The 1967 Legislature made a wise decision in establishing a state scholarship program which provides aid for students who attend private colleges and universities as well as those who attend public institutions. Large increases in the amount of student financial aid to be provided by the state, as recommended earlier in this document, will be required before any substantial impact is made upon private institutions. Even large amounts of student aid may not provide complete solution to the growing financial problems of the state's private colleges and universities.

The Commission firmly believes that the dual system, public and private, of higher education has provided strength and diversity of opportunities which the state cannot afford to lose. The problem is so serious as to deserve a major share of the Commission's attention during the next biennium.

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[38] IBID.

APPENDIX A

MANPOWER NEEDS

APPENDIX A

MANPOWER NEEDS[1]

Growth of the Labor Force[2]

The labor force of the United States is expected to increase by 22.0 per cent from 1960 to 1970. During the decade which follows that, however, the Bureau of Labor Statistics predicts that the per cent increase of the U. S. labor force will be 18.1 per cent. The labor force in Minnesota is expected to increase at a lesser rate, 18.4 per cent, than the U. S. labor force during the present decade, but it is expected to exceed the rate of increase of the total labor force from 1970 to 1980 by 1.1 per cent. Thus, although Minnesota will rank only 35th among the states in terms of per cent increase of labor force from 1960 to 1970, it will jump to 12th during the following decade. Numerous states which will record higher per cent increases during the 1960's will drop below the rate of increase expected in Minnesota during the 1970's.

The labor force of the United States which totaled 69,877,000 persons in 1960, is expected to reach 100,670,000 by 1980. Between 1960 and 1970 it is predicted to increase by 15,380,000 persons. This growth will be followed in the succeeding decade by an addition of 15,413,000 persons to the national labor force. Increases during the twenty year period in the labor force of the West North Central region, which includes Minnesota, will result in a gain of 1,855,000 persons.

Additions to the labor force of Minnesota during the period 1970 to 1980 will exceed those during the previous decade. Projections indicate that 297,000 persons will be added to the labor force during 1970-80 as compared with 240,000 persons in the previous decade. With the additions of these persons, the Minnesota labor force will increase from 1,304,000 persons in 1960 to 1,841,000 persons in 1980, resulting in a percentage increase of 41 per cent.

TABLE A:I

LABOR FORCE STATISTICS

	Annual Average in Thousands			Per Cent Change	
	1960	1970	1980	1960-70	1970-80
United States	69,877	85,257	100,670	22.0	18.1
West North Central Region	5,919	6,772	7,774	14.4	14.8
Minnesota	1,304	1,544	1,841	18.4	19.2

Changes in the Characteristics of the Labor Force

Changes in the characteristics of the labor force will be influenced by at least two factors: the large numbers of young persons who are becoming of working age and the increasing numbers of women who are seeking employment. Nearly twice as many young persons in Minnesota will reach age 18 in 1975 as reached that age in 1956.

TABLE A:II

NUMBER OF PERSONS REACHING AGE 18 IN MINNESOTA

1956	40,350	1965	66,347
1957	41,454	1966	63,583
1958	42,954	1967	61,971
1959	44,866	1970	71,300
1960	47,507	1972	74,000
1961	52,945	1975	79,000
1962	49,053	1977	80,600
1963	48,785	1980	83,400
1964	51,176		

Because of the addition to the labor force of large numbers of young persons, the percentage distributions among age groups of the labor forces in Minnesota and the five-county Minneapolis-St. Paul Metropolitan area (including Anoka, Dakota, Hennepin, Ramsey and Washington counties) have both changed and are expected to continue changing.

The percentage of the Minnesota labor force in the age group, 14 to 19 years, is expected to increase from 8.0 per cent in 1950 to 13.4 in 1975. Likewise, the percentage of the labor force 20 to 24 years old will increase over the 25 year period from 11.4 to 15.6

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[1] This material draws heavily upon *Minnesota's Manpower 1960 to 1975,* Report of the Minnesota Department of Employment Security (St. Paul, 1966). Information contained in the report is cited throughout without further reference.

[2] The basis for these figures are the census figures for the respective years. The labor force includes all persons classified as employed or unemployed and also members of the Armed Forces. Employed persons comprise all civilians 14 years old and older who were either (a) at work—those who did any work for pay or profit, or worked without pay for 15 hours or more on a family farm or in a family business or (b) who held a job but were not at work and were not looking for work but had jobs or businesses from which they were temporarily absent because of weather, industrial dispute, vacation, illness or other personal reasons.
Persons are classified as unemployed if they were 14 years old and over, not at work and looking for work, also included are those who do not work at all and (a) were waiting to be called back to a job from which they had been laid off or (b) were waiting to report to a new wage or salary job within 30 days, or (c) would have been looking for work except that they were temporarily ill or believed no work was available in their line of work or in the community.

per cent. Percentages in the remaining three age groups will each decline. See Table A:III. A similar, but more pronounced, pattern will exist for the five county Metropolitan area where the percentage of the labor force in the 14 to 19 year age group will increase from 6.5 per cent in 1950 to 16.1 in 1975 and the percentage in the 20 to 24 year age group will increase from 12.3 to 21.9 per cent. See Table A:IV.

The 14 to 19 age group of the Minnesota labor force will increase 94,200, a growth of 79.4 per cent, between 1960 and 1975. This rate of growth is over three times greater than either the rate of growth of that age group from 1950 to 1960 or the rate of growth of the total labor force from 1960 to 1975. Over the 25 year period, 118,900 workers will be added to the 14 to 19 age group, constituting the largest numerical increase.

TABLE A:III
MINNESOTA LABOR FORCE BY AGE GROUP AND SEX 1950 TO 1975
(In Thousands)

	1950		1960		1975		Change			
							1950-1960		1960-1975	
Age Groups	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
					Both Sexes					
14 Years and Over.	1,182.3	100.0	1,299.1	100.0	1,583.5	100.0	116.8	9.9	284.4	21.9
14 to 19 Years....	94.0	8.0	118.7	9.1	212.9	13.4	24.7	26.3	94.2	79.4
20 to 24 Years....	134.5	11.4	127.3	9.8	247.9	15.6	–7.2	–5.4	120.6	94.7
25 to 44 Years....	509.2	43.0	527.7	40.7	588.4	37.3	18.5	3.6	60.7	11.5
45 to 64 Years....	378.2	32.0	453.5	34.9	474.2	29.9	75.3	19.9	20.7	4.6
65 Years and Over.	66.4	5.6	71.9	5.5	60.1	3.8	5.5	8.3	–11.8	–16.4
					Male					
14 Years and Over.	865.9	100.0	887.8	100.0	1,022.9	100.0	21.9	2.5	135.1	15.2
14 to 19 Years....	57.5	6.6	66.2	7.4	123.5	12.1	8.7	15.1	57.3	86.6
20 to 24 Years....	83.9	9.7	76.3	8.6	157.0	15.3	–7.6	–9.1	80.7	105.8
25 to 44 Years....	382.6	44.2	388.0	43.8	411.1	40.2	5.4	1.4	23.1	6.0
45 to 64 Years....	286.9	33.1	306.5	34.5	293.8	28.7	19.6	6.8	–12.7	–4.1
65 Years and Over.	55.0	6.4	50.8	5.7	37.5	3.7	–4.2	–7.6	–13.3	–26.2
					Female					
14 Years and Over.	316.4	100.0	411.3	100.0	560.6	100.0	94.9	30.0	149.3	36.3
14 to 19 Years....	36.5	11.5	52.5	12.8	89.4	16.0	16.0	43.8	36.9	70.3
20 to 24 Years....	50.6	16.0	51.0	12.4	90.0	16.2	0.4	0.8	39.9	78.2
25 to 44 Years....	126.6	40.1	139.7	34.0	177.3	31.6	13.1	10.3	37.6	26.9
45 to 64 Years....	91.3	28.8	147.0	35.7	180.4	32.2	55.7	61.0	33.4	22.7
65 Years and Over.	11.4	3.6	21.1	5.1	22.6	4.0	9.7	85.1	1.5	7.1

TABLE A:IV
MINNEAPOLIS-ST. PAUL METROPOLITAN AREA LABOR FORCE BY AGE GROUP AND SEX 1950 TO 1975
(In Thousands)

	1950		1960		1975		Change			
							1950-1960		1960-1975	
Age Groups	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
					Both Sexes					
14 Years and Over.	489.2	100.0	599.1	100.0	830.4	100.0	109.9	22.5	231.3	38.6
14 to 19 Years....	32.0	6.5	51.6	8.6	134.0	16.1	19.6	61.3	82.4	159.7
20 to 24 Years....	60.1	12.3	67.6	11.3	181.6	21.9	7.5	12.5	114.0	168.6
25 to 44 Years....	216.3	44.2	256.5	42.8	289.5	34.8	40.2	18.6	33.0	12.9
45 to 64 Years....	157.4	32.2	196.1	32.7	200.8	24.2	38.7	24.6	4.7	2.4
65 Years and Over.	23.3	4.8	27.3	4.6	24.5	3.0	4.0	17.2	–2.8	–10.3
					Male					
14 Years and Over.	327.9	100.0	385.2	100.0	518.8	100.0	57.3	17.5	133.6	34.7
14 to 19 Years....	15.7	4.8	25.3	6.6	77.7	15.0	9.6	61.1	52.4	207.1
20 to 24 Years....	32.3	9.9	37.2	9.6	115.3	22.2	4.9	15.2	78.1	209.9
25 to 44 Years....	151.2	46.1	182.3	47.4	195.6	37.7	31.1	20.6	13.3	7.3
45 to 64 Years....	110.8	33.8	123.0	31.9	117.3	22.6	12.2	11.0	–5.7	–4.6
65 Years and Over.	17.9	5.4	17.5	4.5	12.9	2.5	–0.4	–2.2	–4.6	–26.3
					Female					
14 Years and Over.	162.7	100.0	213.9	100.0	311.6	100.0	51.2	31.5	97.7	45.7
14 to 19 Years....	16.3	10.0	26.4	12.3	56.3	18.1	10.1	62.0	29.9	113.3
20 to 24 Years....	27.9	17.1	30.4	14.2	66.3	21.3	2.5	9.0	35.9	118.1
25 to 44 Years....	65.8	40.5	74.2	34.7	93.9	30.1	8.4	12.8	19.7	26.5
45 to 64 Years....	47.2	29.0	73.1	34.2	83.5	26.8	25.9	54.9	10.4	14.2
65 Years and Over.	5.5	3.4	9.8	4.6	11.6	3.7	4.3	78.2	1.8	18.4

The most drastic change in the Minnesota labor force will occur in the 20 to 24 age group. After a decrease of 7,200 persons between 1950 and 1960, the number of workers in the 20 to 24 age group will increase by 120,600 persons from 1960 to 1975. The rate of growth of this age group will be 94.7 per cent, four times the rate of growth of the total Minnesota labor force during the 15 year period. From 1960 to 1975, workers in the 25 to 44 age group will increase at about one-half the rate of the total labor force, workers in the 45 to 64 age group will increase at about one-fifth the rate, and workers over 65 years will decline.

The labor force of the Metropolitan area will increase 38.6 per cent between 1960 and 1970 as compared with 21.9 per cent for the labor force of Minnesota. The 14 to 19 age group of the Metropolitan labor force will increase 159.7 per cent, adding 82,400 workers. During the same period, the 20 to 24 age group will grow 168.6 per cent, increasing by 114,000 persons. Not unlike the pattern that will typify the Minnesota labor force, the 25 to 44 age group of the Metropolitan labor force will increase moderately by 12.9 per cent, the 45 to 64 age group will increase only slightly by 2.4 per cent, and the 65 years and over age group will decline.

The second factor to affect the characteristics of the labor force will be the trend toward working women. In 1975, women will comprise over one-third of the labor force in Minnesota. From 1960 to 1975, the number of women workers in Minnesota will increase at a rate which is twice as large as that for men, 36.3 per cent as compared with 15.2 per cent. Over the 25 year period from 1950 to 1975, the difference in the rates is expected to be even more extreme, 77.2 per cent increase for women as compared with 18.1 per cent for men.

During the previous decade, over four times as many women as men joined the Minnesota labor force, 94,900 as compared to 21,900. The difference is not expected to be as great during the fifteen year period (1960-1975) although the increase in women will still exceed the increase in men, 149,300 to 135,100. When considered over the 25 year period, however, the increase in women will exceed the increase in men by approximately 87,200.

The increases in women during the fifteen year period will be most apparent in three age groups: 25 to 44, 45 to 64, and 65 and over. In the 25 to 44 year age group, the increase in women will exceed the increase in men by 14,500. In the latter two age groups, the number of women will increase by 33,400 and 1,500, respectively, while the number of men in these categories will actually decrease by 12,700 and 13,300, respectively.

Although the number of women employed in the five-county Minneapolis-St. Paul Metropolitan area is also expected to exceed one-third of the labor force by 1975, the number of women to be added to the Metropolitan labor force between 1960 and 1975, 97,700, will not exceed the increase in men which is estimated to be 133,600. Over the 25 year period, the increases in male and female workers in the Metropolitan area are expected to be 190,900 and 148,900, respectively. However, the percentage increase in women in the Metropolitan labor force during the fifteen year period, 45.7, will be larger than the percentage increase for men during the same period, 34.7, and also larger than the percentage increase for all women in the Minnesota labor force during the same period, 36.3 per cent.

The proportion of women who work in 1975 will be considerably larger than the proportion who were working in 1960. By 1975, 40.0 per cent of all women 14 years of age and over will be working as compared with 34.4 per cent in 1960. Largest increases from 1960 to 1975 in the percentage of working women will occur in the 25-44 and 45-64 year age groups where the percentages will increase from 34.1 to 40.6 per cent and 42.3 and 52.3 per cent, respectively.

TABLE A:V

LABOR FORCE PARTICIPATION RATES FOR MEN AND WOMEN IN MINNESOTA 1960 TO 1975

	Male		Female	
Age Group	1960	1975	1960	1975
14 Years and Over	77.3%	78.0%	34.4%	40.0%
14-19 Years	43.9	50.6	34.3	37.2
20-24 Years	84.2	92.9	48.4	53.8
25-44 Years	95.6	98.0	34.1	40.6
45-64 Years	90.7	91.2	42.3	52.3
65 Years and Over	31.1	23.9	11.7	10.8

Changes in the characteristics of the labor force over the years will have several implications. The 25 to 44 year age group is generally considered to contain people of ideal working age and has traditionally supplied the economy with many high-level workers. However, from 1960 to 1975, this age group of the Minnesota work force is expected to grow at a rate one-half as fast as the total labor force. Only 79,200 workers will be added to the 25 to 44 age group over a 25 year period, 1950 to 1975, as compared with an addition of 232,300 persons aged 14 to 25 years during the same period. Even the total number of workers over 45 years of age who are added to the Minnesota labor force from 1950 to 1975 will exceed the increase in the 25 to 44 age group by 10,500. Clearly, there will be increased opportunities for younger and older workers to assume the responsible positions sometimes reserved for the middle-age group in the past. For qualified young persons, opportunities for advancement may come much more quickly than formerly.

For unqualified young persons, the prospects may not be so bright. Unemployment in the United States has fluctuated since 1948 when it was 3.8 per cent. It did not rise above the 6.8 recorded in 1958, however, and decreased again to 3.8 per cent in 1966 and 1967. In 1948, unemployed young persons aged 16-19 years constituted 9.2 per cent of the civilian labor force of that age. This percentage also has fluctuated over the years to a high of 16.8 per cent in 1961, but in 1966 and 1967, when the unemployment rate of the total civilian force had returned to the level recorded in 1948, the unemployment rate of young persons 16-19 years old was 12.7 and 12.9 per cent, respectively, over 3.5 percentage points higher than the 1948 rate.

The competition for employment with which young persons must contend may be delineated even more by examining the age characteristics of unemployed persons. In 1948, there were 2,276,000 unemployed persons in the United States, of which 407,000 were 16-19 years old. By 1967, total unemployment grew to 2,975,000 persons and the number of unemployed young persons (16-19) more than doubled to 838,000. Whereas young persons aged 16-19 constituted about 17.9 per cent of the unemployed population of the United States in 1948, by 1967 the percentage grew to 28.2.

TABLE A:VI

Year	Unemployed Persons (In Thousands)		Per Cent of Total Unemployed Aged 16-19
	All Unemployed	16-19 Years Old	
1948	2,276	407	17.9
1949	3,637	575	15.8
1950	3,288	513	15.6
1951	2,055	336	16.4
1952	1,883	345	18.3
1953	1,834	307	16.7
1954	3,532	501	14.2
1955	2,852	450	15.8
1956	2,750	478	17.4
1957	2,859	496	17.3
1958	4,620	678	14.7
1959	3,740	654	17.5
1960	3,852	711	18.4
1961	4,714	828	17.6
1962	3,911	720	18.4
1963	4,070	883	21.7
1964	3,786	873	23.0
1965	3,366	874	26.0
1966	2,875	836	29.1
1967	2,975	838	28.2

Industry Employment Trends

The increase in employment in Minnesota is expected to be more than three times greater during the period 1960 to 1975 than it was from 1950 to 1960. The rate of increase will grow from 7.9 per cent to 24.5 per cent so that by 1975 approximately 1,536,000 persons will be employed. The numerical increase in the number of persons to be employed from 1960 to 1975 will be 302,600 persons.

Most noticeable of the industrial employment trends predicted to occur in Minnesota during the period from 1950 to 1975 is the decrease in agricultural employment. In 1950, agriculture, forestry, and fisheries represented 23.0 per cent of the state's employment. By 1960, this percentage had dropped to 14.8 and it is expected to continue declining to 8.0 in 1975. Employment in agriculture is predicted to decrease by nearly 141,000 persons over the 25 year period.

Substantial increases in employment are occurring in Minnesota's nonagricultural industries, however. During the period from 1950 to 1960, the largest numerical increases in employment were reported in the manufacturing, service, and government classifications, in that order. The increases from 1960-75 are expected to be somewhat different, however. Wholesale and retail trade industries will employ the greatest additional number of persons, 97,300. Government and service industries are expected to follow with additions of 77,700 and 61,900 persons, respectively. Among the nonagricultural industries, only mining is expected to decline.

The greatest percentage gains recorded during the 1950's occurred in the following industries: (1) finance, insurance and real estate, (2) government, and (3) manufacturing. From 1960 to 1975, the construction industry is expected to increase by 61.3 per cent. Employment in government will grow 55.9 per cent, while employment in finance, insurance, and real estate will grow 44.8 per cent. Employment in mining will decrease by 23.3 per cent. See Table A:VII.

Over 64 per cent of the nonagricultural employment growth in Minnesota between 1960 and 1975 will occur in the five-county Minneapolis-St. Paul Metropolitan area. Employment growth in the area will represent 80.2 per cent of the increase in the manufacturing industry and 66.0 per cent of the increase

TABLE A:VII

MINNESOTA EMPLOYMENT BY INDUSTRY DIVISION 1950 TO 1975

(In Thousands)

							Change			
Industry Division	1950		1960		1975		1950-1960		1960-1975	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total Employed...	1,143.4	100.0	1,233.4	100.0	1,536.0	100.0	90.0	7.9	302.6	24.5
Agriculture, Forestry and Fisheries.......	263.5	23.0	182.5	14.8	122.9	8.0	–81.0	–30.7	–59.6	–32.7
Nonagriculture— Total........	879.9	77.0	1,050.9	85.2	1,413.1	92.0	171.0	19.4	362.2	34.5
Mining.........	16.0	1.4	18.0	1.4	13.8	.9	2.0	12.5	–4.2	–23.3
Construction....	57.3	5.0	60.0	4.9	96.8	6.3	2.7	4.7	36.8	61.3
Manufacturing..	189.3	16.6	247.0	20.0	302.6	19.7	57.7	30.5	55.6	22.5
Transportation, Communications and Other Public Utilities......	91.7	8.0	87.1	7.1	101.4	6.6	–4.6	–5.0	14.3	16.4
Wholesale and Retail Trade..	230.7	20.2	248.3	20.1	345.6	22.5	17.6	7.6	97.3	39.2
Finance, Insurance and Real Estate...	36.6	3.2	50.9	4.1	73.7	4.8	14.3	39.1	22.8	44.8
Service and Miscellaneous.	156.3	13.7	200.7	16.3	262.6	17.1	44.4	28.4	61.9	30.8
Government....	102.0	8.9	138.9	11.3	216.6	14.1	36.9	36.2	77.7	55.9

in the trade industry. The following table presents the percentages of the total increases in Minnesota nonagricultural industries that are expected to occur in the Metropolitan area.

TABLE A:VIII

PERCENTAGE OF INCREASE IN MINNESOTA NONAGRICULTURAL INDUSTRIES TO OCCUR IN THE MINNEAPOLIS-ST. PAUL METROPOLITAN AREA, 1960-75

Industry Group	Per Cent of Increase
Total Nonagricultural	64.1
Construction	59.5
Manufacturing	80.2
Transportation	39.2
Wholesale and Retail Trade	66.0
Finance	64.9
Service	63.3
Government	53.8

During the period 1960-1975, the largest numerical increase in employment in the Metropolitan area is expected to be reported by the wholesale and retail trade industry with 64,200 persons. Following with major increases of 44,600 and 41,800, respectively, will be manufacturing and government. As in the state as a whole, the construction and government industries are expected to show the greatest percentage increases in the Metropolitan area, 72.5 and 63.5 per cent, respectively. Wholesale and retail trade will follow with 50.3 per cent growth. See Table A:IX.

Occupational Employment Trends

By 1975 when 1,536,000 persons will be employed in Minnesota, the occupational mix of the labor force will be considerably different than it was in 1950 when approximately 1,143,400 persons were employed. Almost 15.4 per cent of the Minnesota labor force will be engaged in positions as professional, technical, or kindred workers in 1975 and an additional 13.6 per cent will be occupied as service workers. The percentages of the total Minnesota labor force engaged in these occupations will increase by 5.7 and 5.5 percentage points from 1950 to 1975.

In 1975, the largest proportion of the Minnesota labor force, 16.4 per cent, will be employed as clerical and kindred workers. Also expected to increase slightly by 1975 are the percentages of the labor force employed as (1) managers, officials, and proprietors, (2) sales workers, and (3) craftsmen, foremen and kindred workers. The percentages of persons employed as laborers and in farm-related occupations will decline.

In the Metropolitan area, almost 40 per cent of the labor force in 1975 will be classified in either of two occupational groups. It is estimated that 21.7 per cent of the labor force will be engaged as clerical workers and an additional 17.4 per cent as professional or technical workers. Other occupational groups that will each employ at least 10 per cent of the Metropolitan labor force are: (1) operatives and kindred workers, (2) craftsmen and kindred workers, and (3) service workers.

TABLE A:IX
MINNEAPOLIS-ST. PAUL METROPOLITAN AREA EMPLOYMENT BY INDUSTRY DIVISION 1950 TO 1975
(In Thousands)

							Change			
	1950		1960		1975		1950-1960		1960-1975	
Industry Group	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
TOTAL EMPLOYED.....	473.3	100.0	576.1	100.0	805.5	100.0	102.8	21.7	229.4	39.8
Agriculture, Forestry and Fisheries.....	11.7	2.5	7.9	1.4	5.2	.6	-3.8	-32.5	-2.7	-34.2
Nonagriculture—Total......	461.5	97.5	568.2	98.6	800.3	99.4	106.7	23.1	232.1	40.8
Construction..	25.6	5.4	30.2	5.2	52.1	6.5	4.6	18.0	21.9	72.5
Manufacturing	121.1	25.6	156.3	27.1	200.9	24.9	35.2	29.1	44.6	28.5
Transportation, Communications and Other Public Utilities....	49.9	10.5	51.1	8.9	56.7	7.0	1.2	2.4	5.6	11.0
Wholesale and Retail Trade	114.8	24.3	127.7	22.2	191.9	23.8	12.9	11.2	64.2	50.3
Finance, Insurance and Real Estate.....	25.4	5.4	35.6	6.2	50.4	6.3	10.2	40.2	14.8	41.6
Service and Miscellaneous........	77.3	16.3	101.5	17.6	140.7	17.5	24.2	31.3	39.2	38.6
Government..	47.4	10.0	65.8	11.4	107.6	13.4	18.4	38.8	41.8	63.5

TABLE A:X
PERCENTAGES OF MINNESOTA AND METROPOLITAN LABOR FORCES IN EACH OCCUPATION, 1950, 1960, 1975

	Per Cent Distribution					
	Minnesota			Metropolitan		
Occupational Group	1950	1960	1975	1950	1960	1975
TOTAL EMPLOYED.....	100.0	100.0	100.0	100.0	100.0	100.0
Professional, Technical and Kindred Workers......	8.7	11.9	15.4	11.2	14.5	17.4
Managers, Officials and Proprietors...	8.9	8.7	9.0	9.8	9.2	8.8
Clerical and Kindred Workers......	12.0	14.4	16.4	19.3	20.5	21.7
Sales Workers...	7.2	7.7	8.0	9.0	9.2	9.0
Craftsmen, Foremen and Kindred Workers......	12.6	12.6	12.8	15.1	14.1	13.3
Operatives and Kindred Workers......	14.0	14.7	13.6	17.6	15.9	13.7
Service Workers.	9.1	11.5	13.6	10.7	11.3	12.5
Laborers.......	4.9	4.0	3.1	4.8	4.1	3.0
Farmers, Farm Managers, Laborers and Foremen.....	22.7	14.6	8.0	2.4	1.3	0.6

The occupational groups that will require the largest numerical increases in personnel throughout Minnesota during the period 1960 to 1975 are professional and technical workers, clerical workers, and service workers. These same classifications showed the greatest numerical increases between 1950 and 1960. From 1960 to 1975, an additional 89,900 professional and technical workers, 74,000 clerical workers, and 67,300 service workers will be needed. Personnel increases for these classifications over the 25 year period are expected to be 136,800, 113,700, and 104,800, respectively. Decreases over the same period of 136,200 and 7,200 are expected for laborers and farmers and farm workers, respectively.

Those same occupational groups that will report the largest numerical increases in personnel in Minnesota between 1960 and 1975 are also expected to record the largest rates of growth. The number of professional and technical workers will increase by 61.2 per cent at a rate more than two and one-half times greater than the rate at which the total labor force will increase, while service workers will gain by 47.6 per cent. The rate of increase for clerical workers is expected to be 41.7 per cent.

Personnel increases in the Minneapolis-St. Paul Metropolitan area are expected to account for almost 76 per cent of the increase in the Minnesota labor force from 1960 to 1975. Of the 302,600 persons to be employed, 229,400 persons will find positions in the Metropolitan area. Over 76 per cent of the increase in clerical workers in Minnesota during the 15 year period will be in the Metropolitan area. Similarly, persons in the Metropolitan area will constitute 68.3 per cent of the increase in operatives, 67.5 per cent of the increase in sales personnel, 63.1 per cent of the increase in professional and technical personnel, and 61.9 per cent of the increase in craftsmen, foremen, and kindred workers.

TABLE A:XI

CHANGES IN THE LABOR FORCE BY OCCUPATIONAL GROUP, 1960-1975

Occupational Group	Changes in Minnesota Labor Force		Changes in Metropolitan Labor Force	
	Number	Per Cent	Number	Per Cent
TOTAL EMPLOYED..	302.6	24.5	229.4	39.8
Professional, Technical and Kindred Workers...	89.9	61.2	56.7	67.9
Managers, Officials and Proprietors.....	31.0	29.0	18.0	34.0
Clerical and Kindred Workers...........	74.0	41.7	56.4	47.6
Sales Workers........	29.2	31.0	19.7	37.3
Craftsmen, Foremen and Kindred Workers...........	42.0	27.1	26.0	32.1
Operatives and Kindred Workers...	27.8	15.3	19.0	20.8
Service Workers......	67.3	47.6	35.4	54.2
Laborers.............	– 1.1	– 2.2	0.8	3.4
Farmers, Farm Managers, Laborers and Foremen.......	–57.4	–31.8	– 2.6	–35.1

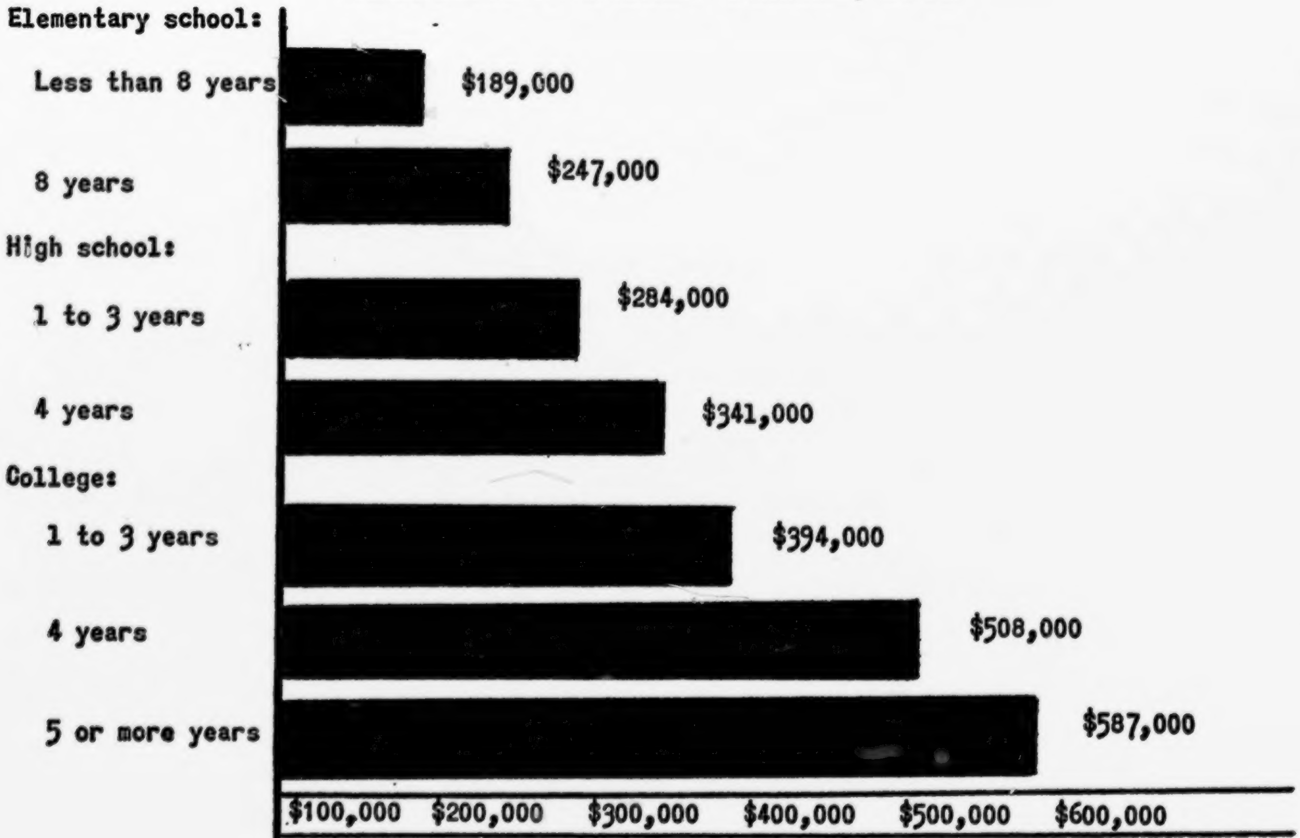
During the period 1960-1975, the number of professional and technical workers in the Metropolitan area will increase by 56,700, the number of clerical workers will increase by 56,400, and the number of service workers will increase by 35,400. The rate of growth for each of these occupational groups during the 15 year period will be 67.9, 47.6, and 54.2 per cent, respectively.

Work and Education

Some information may be shed upon the role which education plays in determining the employment potential of members of the labor force by examining both the relationship between education and income

FIGURE A:1

LIFETIME INCOME OF MEN, BY YEARS OF SCHOOL COMPLETED: UNITED STATES, 1966



SOURCE: U.S. DEPARTMENT OF COMMERCE, Bureau of the Census, Lifetime Income and Educational Attainment of Males in the United States: 1956 to 1966 and the relationship between education and type of employment. The Bureau of Census reports that recent trends in annual income demonstrate the financial advantages of a good education. Although the income of all segments of the population has grown from 1961 to 1965, the greatest increases have occurred at the higher educational levels. The average income of a college graduate has increased by $1,800 from 1961 to 1965, from $9,300 to $11,100. The increase in average income for a high school graduate over the same period was $1,600, from $5,900 to $7,500. For an average male elementary school graduate 25 years of age or over, the increase was not nearly so large. His average income increased by only $700, from $4,200 to $4,900.

Lifetime income, of course, reflects the differences in annual income as they accrue over the years. The latest estimates by the Bureau of Census of the lifetime income of men by years of school completed also seem to show that educational attainment is closely related to a person's income. The following chart indicates that from age 18 onward an average elementary school graduate will earn approximately $247,000; a high school graduate, $341,000; a college graduate, $508,000; and a person with one or more years of graduate study, $587,000.

An average college graduate can expect an income that is 50 per cent greater than the income of a high school graduate who fails to enter college and more than twice as large as the income of a man who completes only the eighth grade. The remuneration of a person who has completed five or more years of college is likely to be more than three times that of an elementary school drop-out.

TABLE A:XII

MEDIAN YEARS OF SCHOOL COMPLETED OF THOSE OVER 18 YEARS OF AGE WORKING IN THE UNITED STATES 1959 AND 1965

	Years	
Occupational Group	1959	1965
All Occupational Groups	12.0	12.2
Professional and Technical	16.2	16.3
Proprietors and Managers	12.4	12.6
Clerical and Sales	12.5	12.5
Skilled	11.0	11.7
Semi-skilled	9.9	10.6
Service	9.7	10.8
Unskilled	8.6	9.5
Farmers and Farm Workers	8.6	8.7

A study of the median years of school completed by persons in various occupational groups presents some information concerning the relation of education and type of employment. Whereas the median years of school completed by persons employed in professional and technical positions in 1965 was 16.3, the median for unskilled workers was almost seven years less, 9.5. The median years of school completed by persons engaged as proprietors and managers or as clerical and sales workers was nearly four years higher than that for farmers and farm workers. For skilled workers, the median was two years higher than the median for unskilled workers.

The preceding table also shows that the median number of years of education completed by persons in each of the occupational groups, with only one exception, has increased from 1959 to 1965. It is expected that these increases will become even more pronounced in coming years as those persons who entered the labor force when post-secondary education was not as common as it is today will retire.

TABLE A:XIII

EDUCATIONAL DISTRIBUTION OF EMPLOYED WORKERS 18 YEARS OLD AND OVER IN THE UNITED STATES BY MAJOR OCCUPATIONAL GROUP, MARCH, 1965

	Kind of Education		
People Who Work in These Occupations	Less Than High School Graduation	Per Cent With High School Graduation	Some College Education
All Occupational Groups	42%	36%	23%
Total White Collar	19	40	41
Professional and Technical	5	19	76
Proprietors and Managers	29	37	34
Clerical and Sales	22	55	24
Total Blue Collar	60	33	6
Craftsmen	53	38	10
Operatives	63	33	5
Laborers	71	24	5
Service	61	32	8
Farmers and Farm Workers	72	22	6

The percentage of persons in each occupational group with various levels of educational background are reported in the preceding table. In 1965, 76 per cent of the workers in that occupation which is expected to require the largest numerical increases in personnel, professional and technical workers, had some college education. Approximately 24 per cent of the persons engaged in clerical or sales positions also reported some college education, while 34 per cent of the persons in proprietory or managerial positions reported some college education. Again, there are indications that the proportion of persons in these occupations that will require post-secondary education in the future will increase.

Some Implications for Education

The implications for education of labor force and employment trends are numerous. Careful consideration must be given to the manpower needs of Minnesota before comprehensive planning to meet the educational needs of the citizens of Minnesota can proceed effectively.

Among the trends which must be considered as plans for higher education develop are the following:

_____Young persons are rapidly becoming an increasingly larger proportion of the total population and of the labor force as well.

_____Qualified young persons will continue to be challenged with employment and advancement opportunities.

_____Unqualified young persons will likely face unemployment or interrupted employment because of their lack of preparation.

_____The industries that are expected to add the largest numbers of persons between 1960 and 1975—trade, government, service, manufacturing, and construction—for the most part, require persons with post-secondary training or education.

_____The occupational groups which will provide the most opportunities for employment between 1960 and 1975—professional and technical workers, clerical workers, and service workers—also, by and large, require persons with college or vocational education.

_____Economic advantage to the individual in terms of annual and lifetime income appears to be directly related to educational attainment.

In order that comprehensive planning for the future needs of Minnesota higher education shall reflect the manpower trends of the State, the following policies are suggested:

_____Young persons should be discouraged from terminating their education and entering the labor force until such time as they are prepared to receive meaningful employment, both in terms of economic and personal satisfaction.

_____Women should be encouraged to receive education and training that will qualify them for entry and re-entry into the labor force in accordance with the pattern that has characterized their employment.

_____Priority should be given to the need for training and retraining of older persons to help them keep up to date on the new skills needed because of changing technology.

_____State and local government must be committed to providing the best instructional opportunities for all persons seeking to increase or improve their working skills.

APPENDIX B

PROGRAM REVIEW AND COORDINATION

PROGRAM REVIEW AND COORDINATION

This statement concerns the recommendation that plans for new programs to be instituted by public post-secondary institutions should be presented in advance to the Higher Education Coordinating Commission for review. Since the suggestion would involve extending or expanding the Commission's present responsibility, it might be useful to consider the question of program review in terms of its relevance and appropriateness to the concept of coordination, particularly coordination by a "coordinating agency."

The growth and increasing complexity of post-secondary education, along with general agreement on its importance to the well-being and progress of both the individual and society, have stimulated recognition that a state has an interest in higher education which extends well beyond an interest in individual institutions or systems of institutions. This recognition has led to efforts to provide more effective coordination of higher education, usually (in recent years) through establishing an agency which has as its primary purposes (1) coordinating higher education institutions and activities in a state, (2) planning for the meeting of present and future needs for the services of higher education on a comprehensive and statewide basis, and (3) maintaining some statewide programs which are relevant to all or most institutions in a state.

In most instances, emphasis has been placed upon coordination, with planning and maintaining statewide programs being viewed as necessary or desirable related activities. While a coordinating agency may be described as bringing about coordination, it is more likely that establishing a coordinating agency provides for a more rational basis and a more systematic approach to coordination and, hopefully, more desirable results, both in effectiveness of the total program of higher education and in economy of effort. That some kind of coordination takes place in the absence of a coordinating agency is evident:

> Coordination takes place whether or not a formal structure for it exists. In the absence of a coordinating board, decisions and allocations are made by the governor, by the legislature, or by a state agency that has some primary function other than higher education. An effective coordinating board offers the advantage of providing a balanced view of the needs of the state and the resources of the state.[1]

Three earlier movements aimed at providing more effective coordination of higher education preceded the more recent trend of establishing formal state coordinating agencies: (1) the single governing board, (2) informal voluntary coordination, and (3) grouping institutions under a small number of governing boards.

The first movement aimed at more effective coordination of higher education appeared with the establishment of single governing boards charged with responsibility for operating all public institutions within a state. While 13 states established single boards of control before 1940, it has been observed that "the movement, if such it could be called, toward 'one big board and no others' had practically spent itself by 1940."[2] Both Arizona and New Jersey established single governing boards in 1945, but no other state has followed the earlier trend since 1939. In more recent years, opposition to the single governing board concept has been reported frequently.

> The failure recently of the single board concept to gain acceptance among the states as the agency for statewide coordination is attributed chiefly to the general aversion to rigid centralization and also to the preference for the coordinating board. As noted, the threat of establishing 'one big board' has been the primary factor in the creation and maintenance of the voluntary systems. The single board has been vigorously opposed by most educators who see a leveling and averaging of all institutions under its control.[3]

For a time, it appeared that coordination could be accomplished through informal voluntary arrangements with no statutory basis. However, only Indiana and New Hampshire continue to strive for coordination through voluntary arrangements, while all other voluntary arrangements have been replaced with a statutory coordinating agency. Many serious students of higher education, including T. R. McConnell, have reluctantly reached the conclusion that voluntary arrangements do not adequately meet the need for coordination.

> I have come reluctantly to the conclusion that voluntary coordination is inadequate and ineffective. I am in favor of the greatest possible degree of institutional autonomy, and I deplore the kinds of detailed regulations and controls that are increas-

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[1] Otis Singletary and Harry A. Marmion, "Higher Education," in Frank Smothers, ed., *The Book of the States* (Chicago): The Council of State Governments, 1968), p. 295.

[2] M. M. Chambers, *Voluntary Statewide Coordination in Public Higher Education*, (Ann Arbor: University of Michigan, 1961), p. 60.

[3] Lyman A. Glenny, "State Systems and Plans for Higher Education", in Logan Wilson, ed., *Emerging Patterns in American Higher Education* (Washington: American Council on Education, 1965), p. 90.

> ingly being imposed externally on public institutions by governmental agencies and internally by their own administrations. Nevertheless, I am convinced that the essential outlines of the development of public institutions and public systems of higher education must be subject to the sanction of a coordinating body and responsive to an agency charged with planning a comprehensive statewide educational program.[4]

The third general coordination movement took the form of grouping several institutions, usually institutions of similar type or institutions within a specified geographical area, under one governing board. This approach reduced the number of public governing boards to a total of something between two and five and was often more favorably received than was the single governing board approach. Some weaknesses of relying upon boards which govern a number of institutions without a single statewide coordinating agency were reported in a 1960 U. S. Office of Education study, as follows:

> The question then arises: What organizational pattern should be adopted where large numbers of institutional units exist now or are likely to develop in future years?
>
> One possibility is to create a series of governing-coordinating boards, each over a number of institutional units. This has occurred in Minnesota, Oklahoma, Virginia, Wisconsin, Texas, and Utah. These states, however, have created statewide coordinating boards over all governing or governing-coordinating boards, with the exception of Minnesota. (Note: The Higher Education Coordinating Commission had not as yet been established at the time of the U. S. Office of Education study.) This suggests that a plan of systems of colleges under autonomous or uncoordinated governing-coordinating boards may be less than fully effective in meeting the total educational needs of a state. For one thing, it may leave gaps in the effort toward coordination because of the location or variety in number of institutions under the board. Another result might be the development of 'educational empires' which contribute actually to a greater need for coordination.[5]

The "ideal" arrangement as recommended in the U. S. Office of Education study is as follows:

> If a fresh start could be taken in a state having nine or more public colleges, the authors would argue for a system to place each institutional unit, whether a two-year college or a four-year institution or a complex university, under its own governing board, and over this board, a statewide coordinating board with major duties of interinstitutional programming, budget coordination, and long-range planning.[6]

The above recommendation for the "ideal" arrangement suggests that a coordinating agency should have responsibility in the areas of programs, budget, and planning. This concept of the appropriate functions for a statewide coordinating agency would appear to have been generally accepted and widely implemented. A very recent report presents the observation that, while functions which are performed by coordinating agencies in order to accomplish coordination of higher education are varied, "certain functions appear to be in some degree common to all: program review, budget review, and long-range planning."[7]

If a coordinating agency is to meet the need for coordination more appropriately and effectively than would the arrangements which emerged in the three earlier movements toward coordination, the responsibilities of the coordinating agency must be defined in such a way as (1) to avoid centralized control and uniformity which make a single governing board for all institutions an unacceptable approach, (2) to provide the comprehensive concern which extends beyond the concern of any governing board which controls several, but not all, publicly-supported institutions, and (3) to achieve greater effectiveness than has been demonstrated under informal, voluntary coordinating arrangements. In brief, the powers of a coordinating agency must be sufficiently limited to assure autonomy in the operation of institutions, but a coordinating agency must have enough responsibility to assure that it coordinates in fact as well as in name. If a coordinating agency has too much power, it may assume a role which should be reserved for governing boards. If it has too little responsibility and authority, it may never focus meaningfully upon matters which determine the direction of developments among the several components of higher education, and the burden of coordination will continue to fall upon the legislature or other state agencies. To many who engage in the study of higher education, program review, budget review, and long-range planning represent both the minimum and the maximum limits of responsibility and authority which are desirable and appropriate for a coordinating agency, while others contend that such an agency also should "be given the authority to approve or disapprove major proposals for the construction or conversion of educational buildings."[8]

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[4] T. R. McConnell, "The Coordination of State Systems of Higher Education," in Logan Wilson, ed., *Emerging Patterns in American Higher Education*, p. 140.

[5] S. V. Mortorana and Ernest V. Hollis, *State Board Responsible for Higher Education*, U. S. Office of Education, Circular No. 619, (Washington: Government Printing Office, 1960), p. 49.

[6] S. V. Mortorana and Ernest V. Hollis, p. 49.

[7] Otis Singletary and Harry A. Marmion, p. 295.

[8] T. R. McConnell, p. 139.

It is through the conducting of activities which comprise programs that educational institutions execute or implement their respective missions. Such programs comprise three general functions of higher education—instruction, research, and public service—each of which may be performed to some degree by any post-secondary educational institution, depending upon the mission of the institution and the availability of resources.

In Minnesota higher education, the structure for coordinating program developments is well defined for four groupings of public institutions. The University Board of Regents coordinates programming for four campuses under its control; the State College Board coordinates the six institutions for which it has operational responsibility; the State Junior College Board approves and coordinates programming in 17 institutions; and the State Board of Education coordinates programming in 26 area vocational-technical schools. However, the only authority for coordinating programming among the four components or systems of public post-secondary education rests with the State Budget Division and the legislature as part of the budgeting process. Whatever program coordination which occurs as part of the budgeting process tends to be both indirect and incomplete. Budgets of area vocational-technical schools are not reviewed, and there is no systematic procedure for assessing program duplication or compatibility as part of the budgeting process.

Not all new programs are specifically proposed as new programs in the budgeting process. The exceptions in the present structure are that any institution for which aid is desired for supporting terminal vocational or technical programs must have such a program approved by the State Board of Education, an institution need not secure this approval if no aid is requested, and programming plans may be presented for information and discussion to the Higher Education Coordinating Commission. Presentation of plans to the Commission is not required and tends not to be customary. The absence of agreement on any responsibility of the Commission to review program plans makes presentation to, and discussion by, the Commission somewhat awkward.

The present arrangement clearly provides no structure for effective program coordination. Also related is the question of the extent to which the Commission can exert a positive and useful influence on Minnesota post-secondary education, unless the Commission's responsibilities are defined in such a way as to focus attention more directly upon emerging activities of institutions and the direction of institutional efforts. The Commission will be best able to fulfill its legislative charge to develop plans and programs to meet the needs of the people of the state for higher education, when it is informed about and involved with the program plans of post-secondary educational institutions. Unless Commission responsibilities include program review, the danger exists that, while the Commission concerns itself with larger and certainly important questions, those policy matters which most directly affect the future of post-secondary education and its service to the people—program planning and budgeting—will continue to be decided by the four public boards of control, the Budget Division, and the legislature, and the Commission will have relatively little influence upon what really happens in Minnesota higher education.

The general need for mandatory program review as a basis for effective coordination has been summarized as follows:

> It seems axiomatic that no state now possesses or will acquire resources that would justify the unnecessary duplication of costly forms of specialized education. It is also increasingly evident that the unnecessary duplication of educational programs can only lead to educational enfeeblement . . . I can only conclude that there should be some differentiation of responsibilities among public higher education institutions and a distribution or allocation of programs relevant to these functions. This would, in turn, seem to entail efficient allocation of financial resources if educational opportunities of appropriate scope and quality are to be provided for the growing proportion of young people who will continue their formal education beyond the high school. Purely voluntary coordinating agencies are likely to be basically inadequate to this complex task. Five years ago there may have been some exceptions to this generalization. Today there are few, if any.[9]

There seems little doubt that coordination of program offerings is essential to effective coordination of higher education. It also would seem that the functions of program planning and review are consistent with the basic charge to the Commission and that responsibility for reviewing new programs would facilitate the Commission's focusing more directly and more effectively upon the real substance of Minnesota higher education. Program review has become a typical function of coordinating agencies.

While responsibility for program coordination usually is defined to include programs which comprise all three functions of higher education (instruction, research, and public service) it is recommended that, while the Commission should be concerned with the proportion of institutional effort to be devoted to each of the three basic functions and with similar matters which relate to institutional missions, the Commission should, at least for the immediate future, have responsibility for reviewing and approving only those new programs which comprise the function of instruction. Instruction is the largest of the three functions, in terms both of cost to the state and service to the people. Limiting the responsibility only to review of instructional programs would reduce the burden upon the Commission and probably would facilitate effective performance of the new responsibility.

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[9] T. R. McConnell, p. 138.

While the Commission could assume responsibility for program review as part of its charge to study higher education and to develop plans and programs to meet the needs of the state, provided that the four public boards of control were to cooperate, a more straight-forward approach would be to amend the legislation to assign the new responsibility to the Commission. Therefore, it is recommended that the Commission propose the introduction and passage by the 1969 Legislature of a bill which amends Minnesota Statutes 136A.04 by adding subsection (d) to read as follows: *"review and express approval or disapproval upon all plans and proposals for new or additional programs of instruction or substantial changes in existing programs to be established or offered by or in the University of Minnesota, the State Colleges, the State Junior Colleges, and public area vocational-technical schools, and periodically review existing programs offered in or by the above institutions and to recommend discontinuing or modifying any existing program, the continuation of which is judged by the Commission as not being in the best interests of the state; the Commission, in its biennial report to the legislature, shall indicate those programs which have been approved, disapproved, or established and continued without Commission approval."* While this amendment would not legally prohibit the establishment of a new program without approval by the Commission or infringe upon the constitutional immunity of the University Board of Regents or upon any legal rights of other boards, it would establish legislative intent that programs be reviewed and coordinated by the Commission.

Generally, the Commission should be concerned with reviewing plans for new programs rather than with judging the need to continue existing programs. The provision providing for the possibility of recommending that programs be discontinued is included primarily to assure success of the new program review procedure. The need for the opportunity to discontinue existing programs in reviewing proposed new programs has been clearly explained by Professor McConnell:

> A coordinating board should also have the authority to discontinue educational programs. Such power may save the board from being confronted, as is now often the case, with what amounts to a *fait accompli*, that is, with a request to give approval to a *program* or *curriculum* on the grounds that the institution already offers all or nearly all the necessary *courses*. If the authority to discontinue programs does not control this sort of academic one-upmanship some continuing review of course offerings may become essential.[10]

In implementing the responsibility for program review, the Commission should encourage plans to be presented as early as possible in order that those involved in planning not waste effort needlessly. This can be accomplished through a procedure for a preliminary review as a result of which the Commission should either (1) encourage continued planning and submission of a proposal for final review, or (2) indicate reservations which may cause the Commission not to grant approval at the time of final review.

For preliminary review, the institution or board which proposes a new program should be expected to provide only minimal information, such as the need for the program, the general nature of the program, the scope of the program, and the kinds and levels of students for which the program will be intended. For final review, program proposals should include information about:

1. Need for the program.
2. Program objectives.
3. Program content.
4. Number and kinds of students to be served initially and as the program is developed.
5. Relationship of the program to existing programs.
6. Staff, equipment, and facilities which will be needed to initiate the program and to maintain the program in future years.
7. Estimated cost for establishing and maintaining the program.

In reviewing program proposals, the Commission should attempt to assess and should base action upon consideration of:

I. The extent to which the proposed program is consistent with the mission of the institution by which the program is to be offered. This implies that Commission will either agree to the mission, or role and scope, of an institution as determined by the institution, or its governing board, or recommend some redefinition of the mission.

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[10] T. R. McConnell, p. 139.

II. The extent to which the proposed program duplicates existing programs or other proposed programs and whether the nature and extent of any duplication is desirable.

III. The relative cost-benefit of the proposed program as viewed in terms of the total needs of and for higher education and the probable availability of funds to meet total needs.

For purposes of program review, "program" should be defined to include any sequence of courses, activities, or experiences which will lead to a degree or certificate, which will be recognized or described as providing preparation for a vocation, or which will serve as a field of specialization or an area of concentration, such as a major or minor field, in a broader degree program. The term as defined for this purpose should also include any degree or certificate and any program unit such as an instructional division or department. Usually a course is one of several activities or experiences which, in combination with other courses, becomes part of a program. In these terms, the Commission should *not* review courses.

A program should be considered to be new if it is not currently offered by the proposing institution, even though it may have been offered at some time in the past, or if it is to be offered in a new or different campus or location.

APPENDIX C

RECOMMENDATIONS ON ESTABLISHING NEW JUNIOR COLLEGES

LEGISLATIVE CHARGE TO COMMISSION

The 1967 Legislature directed the Minnesota Higher Education Coordinating Commission to review potential locations of future state junior colleges and to report its recommendations to the legislature by December 1, 1968. The legislative charge indicated that the Commission should determine:

1. The effective area of service which can be efficiently provided for by state junior colleges serving as commuter institutions;
2. minimum and maximum recommendations for enrollments at state junior colleges so as to provide quality programs with operational efficiency and economy;
3. the projected demand for state junior colleges measured against potential enrollment at all institutions of higher education, including but not limited to, the University of Minnesota, state colleges, and state junior colleges; and
4. recommendations as to the number and location of state junior colleges needed in Minnesota through the year 2000.

The Commission was specifically instructed to apply the above criteria to those communities listed in the report of the State Junior College Board to the 1967 Legislature and to those communities for which bills requesting junior colleges were introduced during the 1967 Legislative Session. In addition, the Commission was directed to evaluate the community-area of Fairmont which was tentatively designated as a location for a future state junior college.

RECOMMENDATIONS

In keeping with its charge from the 1967 Legislature, the Commission respectfully submits the following recommendations:

I. In keeping with the view that post-secondary education should be made fully accessible to as many Minnesota residents as practical, the Commission recommends that the following guidelines become the policy of the state on establishing and supporting institutions of post-secondary education:

A. A publicly-supported institution of post-secondary education should be located within 35 miles of every Minnesota community with a population of 5,000 or more.

B. An institution which offers at least the first two years of collegiate studies leading to a baccalaureate degree should be located within 20 miles of every Minnesota community with a population of 10,000 or more.

C. When the peculiar characteristics of an area clearly indicate the desirability of establishing and supporting institutions in addition to those established and maintained through implementation of guidelines A and B, the determination to establish additional institutions should be based upon the special intensity and extent of need in the area and should be considered in the context of the total needs of post-secondary education.

II. In view of the general need for post-secondary opportunities for an increasing number of Minnesota residents and the specific need for providing additional opportunities in certain areas of the state, the Commission recommends that the 1969 Legislature (1) confirm the tentative designation by the 1967 Legislature of Fairmont as the location for a new state junior college and (2) designate the following additional five communities, listed in alphabetical order, as locations for new state junior colleges:

a. Alexandria
b. Cambridge
c. Hutchinson
d. New Ulm
e. Owatonna

III. Since meeting the expanding need for post-secondary education and continuing progress in making post-secondary education accessible to Minnesota residents requires immediate action, the Commission recommends that the 1969 Legislature provide the State Junior College Board with the necessary direction, authorization, and resources to proceed with the planning of campuses, the appointment of faculties, and the construction of buildings on a time schedule which provides for sound institutional planning and permits all six of the new junior colleges to be fully operational as soon as feasible, but not later than the fall of 1974.

IV. While the future need is not as yet fully demonstrated, several areas must be regarded as possible locations for new junior colleges prior to the year 2000, and the Commission proposes to continuously monitor and evaluate changing conditions in these areas with a view to recommending additional state junior colleges, if and when the future need and feasibility of new institutions in these locations is fully demonstrated. Among these areas, in alphabetical order, are:

a. East Grand Forks
b. Hastings-Red Wing-Wabasha
c. Little Falls
d. Montevideo
e. Redwood Falls
f. Wadena-Park Rapids-Detroit Lakes

In addition, the Commission has proposed a special intensive study of the peculiar needs of the Twin Cities seven-county metropolitan area during the next biennium. Recommendations emanating from this study could include the establishment of additional junior colleges as well as other types of post-secondary institutions.

DETERMINATIONS AND ASSUMPTIONS

Minnesota has established an excellent record in making post-secondary education accessible to residents of the state by distributing a relatively large number of post-secondary institutions throughout the state. Many residents enjoy the advantages of two or more publicly-supported institutions within commuting distance. If privately-supported institutions are included, the situation is even more favorable. Nonetheless, the need for establishing additional publicly-supported institutions is evident, both in terms of the projected number of students to be educated in Minnesota in the future and the present lack of adequate post-secondary opportunities within commuting distance of some communities with relatively large populations.

The following more specific determinations and assumptions provide the basis for Commission recommendations on both policy and action relating to the establishment of new state junior colleges:

I. While the effective service area of junior colleges will vary among individual institutions according to such factors as travel conditions and proximity to other post-secondary opportunities, the general area of effective service is considered to be the area within a 35 mile radius of the institution. Previous experience indicates that at least 70 per cent of junior college enrollments will come from within the more convenient commuting distance of 20 miles, and that less than seven per cent will be drawn from distances greater than 35 miles.

II. The minimum enrollment regarded as necessary for maintaining quality and effectiveness with desirable per-student investment is considered to be 400 students, and a potential enrollment of at least 500 is desirable. The scope and variety of programs to be offered depends heavily upon the number of students to be served.

III. The Commission believes that, in Minnesota, enrollment for a junior college should not exceed 5,000. When the enrollment of any junior college exceeds 2,500 students, serious consideration should be given to the possibility of establishing an additional institution in the area.

IV. The trends in population movement and redistribution which have been observed during the last 32 years will continue during the next 32 years at an increasingly rapid rate. Thus, it is assumed that:

A. The proportion of Minnesota's total population residing in the Twin Cities metropolitan area will increase substantially by the year of 2000 with a corresponding decrease in the proportion of total population living in rural areas;

B. The number of people living on farms and in communities of 2,500 or less in population will decrease substantially.

C. A large proportion of those residents living outside the Twin Cities metropolitan area will live in population "centers" or communities with a population of at least 5,000.

D. At least 70 per cent of the population will live in cities with a population of 20,000 or more by the year of 2000, and more than 90 per cent of the population will live in communities with a population of more than 5,000.

V. Post-secondary enrollments will increase markedly by the year 2000, but the increase will not be constant:

A. Enrollments will rise rapidly from the 1967 total of 131,361 to a plateau of approximately 234,000 in 1980.

B. Based on present birth rates, enrollments will decrease slightly between 1980 and 1985, but will resume an upward trend reaching a total of more than 271,000 by the year 2000.

C. Because of uncertainties about the birth rate, more valid enrollment projections for the years after 1986 cannot be made until 1972.

VI. While post-secondary opportunities should be made as readily accessible as possible, it is not economically feasible to place all types of institutions or all types of programs within easy commuting distance of all residents. It follows that:

A. The number of institutions to be located in any area must be related to the population which that institution serves. While several institutions may be required to serve the needs of a densely populated area, it is not feasible to establish multiple institutions in areas of more limited population.

B. The scope of program offerings at any commuter institution must be related to the population which that institution serves. While an institution in a densely populated area may offer a wide variety of programs, an institution which serves an area of limited population can provide only more limited program offerings.

VII. Publicly-supported senior institutions will continue to provide commuter opportunities as follows:

A. While state colleges are not primarily commuter institutions, each of the six state colleges and the Duluth and Morris campuses of the University will have as part of its mission the providing of appropriate opportunities to meet the needs of commuting students within its area.

B. The Minneapolis campus of the University of Minnesota will continue to shift its emphasis from lower division to upper division and graduate studies, and thus provide commuter opportunities for only a limited number of freshmen and sophomores.

VIII. The chief purpose and advantage of junior colleges is to provide opportunities within commuting distance of as many students as possible. It follows that:

A. Junior colleges should be located to serve population centers which provide an adequate number of students for an adequate scope of offerings of acceptable quality.

B. Junior colleges should be located to provide for the shortest possible commuting distance for the largest number of persons.

IX. There is an important interrelationship between a junior college and the community in which it is located, as follows:

A. The community in which a junior college is located must normally serve as the home for the faculty and should offer the social and living conveniences needed to attract college faculties.

B. The junior college can serve as an important cultural resource for a population center.

DISCUSSION OF RECOMMENDATIONS

The following discussion is intended to provide a brief summary of the results of extensive study which led to each of the Commission's major recommendations on establishing new state junior colleges. Additional information will be supplied upon request.

RECOMMENDATION I: *Policy Guidelines*

All post-secondary programs which are made available within the state cannot be duplicated to provide all programs within commuting distance of every resident. The impracticality is obvious in the instances of such fields as medical education, computer programming, engineering technology, printing, Slavic languages, and heavy operating equipment. In some cases, the high costs of special facilities and equipment and shortages of qualified instructional personnel make the establishing of duplicative programs economically unfeasible. In other cases, the relatively limited number of potential students who wish to specialize in a particular field makes effective operation of a quality program economically unfeasible.

As many relevant programs as possible should be made accessible to all potential students in the state. Conversely, duplication of programs to provide better accessibility without regard for program quality, effectiveness, and costs, is, at best, unwise. Inferior programs, no matter how accessible, are usually a greater disservice than they are a service to students seeking post-secondary education.

The accessibility of instructional program opportunities is dependent to a large extent upon the accessibility of post-secondary institutions. The greatest possible geographical accessibility to institutions would be achieved by placing either a comprehensive university campus or every type of post-secondary institution within 20 miles of commuting distance from every Minnesota resident. The impracticality of attempting to achieve the above situation is evident.

Indiscriminate proliferation of institutions can be even more damaging than unwarranted duplication of programs. As unfortunate as it may seem, the geography and population distribution of the state are such that it is not practical to provide a post-secondary institution within commuting distance of every Minnesota resident. However, because the accesssibility of post-secondary education is so essential to meeting the needs of the state and its people, every feasible step should be taken.

It is in keeping with the view that post-secondary education should be made as accessible as practical that the Commission proposes the policy of some type of public post-secondary institution within 35 miles of every community with a population of at least 5000, an institution which offers the first two years of study leading to a baccalaureate degree within 20 miles of every community with a population of 10,000 or more, and the determination of need for additional institutions on the basis of special intensity and extent of need in a particular area.

RECOMMENDATION II: *Establishing Six New Institutions*

Two approaches were adopted by the Commission in order that the responsibilities outlined in the legislation might be fulfilled as thoroughly as possible. First, the Commission scheduled a series of public hearings at which representatives of interested communities presented testimony relating to the need for additional higher education opportunities in their respective areas or communities. Second, staff members of the Commission engaged in a program of research aimed at providing objective and comparable data relative to the criteria spelled out in the legislation.

After all communities of the state were informed that hearings would be held, representatives of 23 communities met with members of the Commission to discuss their assessment of the need for additional state junior colleges. At that time, community officials provided written and oral statements relating to the current availability of post-secondary opportunities for the youth of their community and, especially, the availability which is deemed necessary to meet future demands for educational opportunities in that area. The communities which chose to make presentations to the Commission were:

Alexandria
Braham
Cambridge
Detroit Lakes
East Grand Forks
Fairmont
Faribault
Hutchinson
Little Falls
Long Prairie
McLeod County
(Glencoe)
Montevideo
Mora
New Ulm
Owatonna
Parkers Prairie
Park Rapids
Pine City
Red Wing
Sauk Centre
Sleepy Eye
Springfield
Wadena

Staff research of factors relative to the criteria enumerated in the legislation has been extensive. Among the data compiled for consideration by Commission members has been such information as: (1) populations of communities under consideration, (2) their locations in terms of distance to current post-secondary institutions, (3) the populations of counties by age groups, (4) the numbers of high school graduates by local, county, and planning area designations, and (5) information about trade centers. The latter data, which includes such variables as (a) projected and observed growth, (b) bank deposits, loans, and debits, and (c) the value of retail trade have been used to give some indication of the economic conditions which prevail in the communities under consideration.

Especially necessary for assessing the future needs of post-secondary opportunities in Minnesota are the Commission's population and enrollment projections. These include projections by economic planning area to the year 1980 of numbers of 18 years olds, numbers of 18-21 year olds, and numbers of high school graduates as well as projections to the year 2000 of the numbers of post-secondary students to be enrolled at various educational levels.

Briefly, the need for each of the six proposed new junior colleges is as follows:

Alexandria

The need for a commuter collegiate institution to serve the needs of the area surrounding Alexandria, Parkers Prairie, Long Prairie, and Sauk Centre is apparent. Alexandria is the largest community in the area and is judged by the Commission to provide the best location in the area for a junior college. An estimated minimum enrollment of 440 students provides adequate assurance of a successful institution. As a junior college is developed in Alexandria, the Commission encourages exploration by the State Junior College Board, the State Board for Vocational Education and the Alexandria officials of the possibilities for bringing the new junior college and the Alexandria Area Vocational-Technical School together under a single administration.

Cambridge

Location of a junior college in Cambridge will effectively meet the needs in the areas surrounding Mora, Pine City, and Braham, all of which have been proposed as junior college locations. In addition, the Cambridge institution will help to relieve enrollment pressures in the north suburban areas. Rapid enrollment increases in Anoka-Ramsey, Lakewood, and North Hennepin Junior Colleges confirm the expectation that all three institutions will achieve enrollments of 3,000 without meeting total needs of the area within the next few years. Estimated enrollment of a junior college in Cambridge is 425 to 500, depending upon the specific site to be selected.

Fairmont

Fairmont qualifies as the location for a junior college through application of policy Guideline B, since the population of the community now exceeds 10,000, and no public collegiate institution is located within 20 miles of the community. A minimum estimated enrollment of 452 indicates the potential for a successful junior college. In addition, a junior college in Fairmont will help to alleviate substantial enrollment pressures on Mankato State College.

Hutchinson

The need for establishing a junior college in Hutchinson is suggested by policy Guideline A, since the population of the community exceeds 5,000 (estimated population of 6,207 in 1960). Only a small portion of McLeod County is included in the service area of any post-secondary institution. A junior college located in Hutchinson, which is the largest community in McLeod County, could effectively serve the unmet need of all communities in the county, including Glencoe which has been considered as a possible junior college location. With an estimated enrollment of 550, the potential effectiveness of a junior college in Hutchinson is apparent.

New Ulm

Application of policy Guideline B suggests the need for a junior college in New Ulm. The estimated 1966 population of the community exceeds 12,000 and no public collegiate institution is located within 20 miles. A junior college in New Ulm would effectively serve the needs of Springfield and Sleepy Eye, both of which have been considered as possible junior college locations. A junior college in New Ulm also will help to alleviate substantial future enrollment pressures on Mankato State College. The estimated minimum enrollment of 462 students is clearly adequate.

Owatonna

Owatonna clearly qualifies as the location for a junior college under the policy Guideline B, since the estimated 1965 population of the community approached 15,000. An estimated enrollment of 628 students leaves no doubt about the potential for effectiveness of the new institution. In addition, a junior college in Owatonna will serve the unmet need of Faribault, located 16 miles away, which has been considered as a possible junior college location and which has a population of more than 10,000 with no collegiate institution existing within 20 miles.

RECOMMENDATION III: *New Institutions to be Operational by 1974*

The substantial increases in enrollment which are expected to occur through 1980 indicate the need for immediate action to meet future needs. While sufficient time for sound institutional planning should be provided, it is essential that all six of the proposed junior colleges be fully operational by the fall of 1974.

RECOMMENDATION IV: *Continuous Assessment of Other Possible Locations*

Assuring that all needs of the state will be met through the year 2000 would require that the Commission recommend junior colleges in addition to those proposed above. Since the need is not as yet clearly demonstrated and the Commission is reluctant to encourage the state to proceed unwisely, the Commission proposes continuously to monitor changing needs and conditions in those areas specified in Recommendation IV and to make additional recommendations if and when the need for additional institutions is clearly demonstrated.

The Commission urges resolution of reciprocity possibilities with the University of Wisconsin, River Falls, and the University of North Dakota, Grand Forks, so that the present needs of East Grand Forks and Red Wing can be alleviated and the future needs of these communities can be assessed more accurately.

The Commission could justify recommending at least one additional state junior college in the seven-county metropolitan area. However, several proposals for meeting future needs in the metropolitan area have been put forth, including establishment of a new state college, additional area vocational-technical schools, and expansion of the service provided by the University of Minnesota. In addition, the impact of recently established junior colleges should be more carefully evaluated, and the peculiar needs of a rapidly growing and increasingly urbanized population deserve the thorough assessment which can be accomplished through a special intensive study. For these reasons, the Commission proposes the consideration of the possible need for additional junior colleges as part of the comprehensive assessment of needs and evaluation of alternatives for meeting future needs in the area.

TABLE C:I

PROXIMITY TO CLOSEST MINNESOTA PUBLIC POST-SECONDARY INSTITUTION OF CITIES OF 5,000 OR MORE LOCATED OUTSIDE THE SEVEN-COUNTY METROPOLITAN AREA

Cities	Population	Distance	Institution
Duluth	106,884	0	University of Minnesota, Duluth Duluth Area Vocational-Technical School
Rochester	47,797*	0	Rochester State Junior College Rochester Area Vocational-Technical School
St. Cloud	37,746*	0	St. Cloud State College St. Cloud Area Vocational-Technical School
Mankato	28,454*	0	Mankato State College Mankato Area Vocational-Technical School
Austin	27,908	0	Austin State Junior College Austin Area Vocational-Technical School
Moorhead	26,964*	0	Moorhead State College Moorhead Area Vocational-Technical School
Winona	26,771*	0	Winona State College Winona Area Vocational-Technical School
Albert Lea	18,454*	0	Albert Lea Area Vocational-Technical School
Hibbing	17,731	0	Hibbing State Junior College Hibbing Area Vocational-Technical School
Faribault	16,926	0	Faribault Area Vocational-Technical School
Owatonna	14,776*	16	Faribault Area Vocational-Technical School
Virginia	14,034	0	Mesabi State Junior College
Fergus Falls	13,733	0	Fergus Falls State Junior College
Brainerd	12,898	0	Brainerd State Junior College Brainerd Area Vocational-Technical School
New Ulm	12,587*	29	Mankato State College Mankato Area Vocational-Technical School
Hastings	10,588*	12	Southeast Metropolitan State Junior College
Red Wing	10,528	38	Southeast Metropolitan State Junior College
Willmar	10,417	0	Willmar State Junior College Willmar Area Vocational-Technical School
Bemidji	9,958	0	Bemidji State College Bemidji Area Vocational-Technical School
Fairmont	9,745	30	Jackson Area Vocational-Technical School
Worthington	9,015	0	Worthington State Junior College
Cloquet	9,013	20	University of Minnesota, Duluth Duluth Area Vocational-Technical School
Northfield	8,707	16	Faribault Area Vocational-Technical School
Crookston	8,546	0	University of Minnesota, Crookston
St. Peter	8,484	12	Mankato State College Mankato Area Vocational-Technical School
East Grand Forks	7,898*	25	University of Minnesota, Crookston
Little Falls	7,551	31	Brainerd State Junior College Brainerd Area Vocational-Technical School
Marshall	7,363*	0	Southwest State College
Grand Rapids	7,265	0	Itasca State Junior College
Thief River Falls	7,151	0	Northland State Junior College Thief River Area Vocational-Technical School
Chisholm	7,144	7	Hibbing State Junior College Hibbing Area Vocational-Technical School
International Falls	6,778	0	Rainy River State Junior College
Alexandria	6,713	0	Alexandria Area Vocational-Technical School

(continued)

(continued)

TABLE C:I

PROXIMITY TO CLOSEST MINNESOTA PUBLIC POST-SECONDARY INSTITUTION OF CITIES OF 5,000 OR MORE LOCATED OUTSIDE THE SEVEN-COUNTY METROPOLITAN AREA

Cities	Population	Distance	Institution
North Mankato	6,618*	1	Mankato State College Mankato Area Vocational-Technical School
Hutchinson	6,207	48	Willmar State Junior College Willmar Area Vocational-Technical School
Shakopee	6,294*	18	Normandale State Junior College
Waseca	6,102*	26**	Mankato State College Mankato Area Vocational-Technical School
Detroit Lakes	5,978*	0	Detroit Lakes Area Vocational-Technical School
Eveleth	5,721	0	Eveleth Area Vocational-Technical School
Montevideo	5,693	13	Granite Falls Area Vocational-Technical School
Ely	5,438	0	Vermilion State Junior College
Pipestone	5,324	0	Pipestone Area Vocational-Technical School
Litchfield	5,078	27	Willmar State Junior College Willmar Area Vocational-Technical School

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*1965 census figures. All other population figures are 1960 census.

**A two-year agricultural technical institute has been recommended to replace the secondary program of the Southern School of Agriculture.

TABLE C:II

PROXIMITY TO DEGREE-GRANTING INSTITUTIONS OF MINNESOTA CITIES OF 10,000 OR MORE LOCATED OUTSIDE THE SEVEN-COUNTY METROPOLITAN AREA

Cities	Population	Proximity to Minnesota Public Degree-Granting Institution		Proximity to Other Degree-Granting Institution, If Closer	
		Distance	Institution	Distance	Institution
Duluth	106,884	0	University of Minnesota, Duluth	—	—
Rochester	47,797*	0	Rochester State Junior College	—	—
St. Cloud	37,746*	0	St. Cloud State Junior College	—	—
Mankato	28,454*	0	Mankato State College	—	—
Austin	27,908	0	Austin State Junior College	—	—
Moorhead	26,964*	0	Moorhead State College	—	—
Winona	26,771*	0	Winona State College	—	—
Albert Lea	18,454*	20	Austin State Junior College	0	Lea College
Hibbing	17,731	0	Hibbing State Junior College	—	—
Faribault	16,926	37	Normandale State Junior College	16	St. Olaf College, Carleton College
Owatonna	14,776*	34	Austin State Junior College	31	—
Virginia	14,034	0	Mesabi State Junior College	—	—
Fergus Falls	13,733	0	Fergus Falls State Junior College	—	—
Brainerd	12,898	0	Brainerd State Junior College	—	—
New Ulm	12,587*	29	Mankato State College	0	Dr. Martin Luther College
Hastings	10,588*	12	Southeast Metropolitan State Jr. College	—	—
Red Wing	10,528	38	Southeast Metropolitan State Jr. College	25	Wisconsin State University River Falls
Willmar	10,417	0	Willmar State Junior College	—	—

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*1965 census figures. All other population figures are 1960 census.

APPENDIX D

PROPOSAL FOR PROGRAM CHANGE AT THE SOUTHERN SCHOOL OF AGRICULTURE, WASECA

A PROPOSAL FOR PROGRAM CHANGE AT THE SOUTHERN SCHOOL OF AGRICULTURE, WASECA

BACKGROUND: The Regents of the University of Minnesota were requested by the 1967 Legislature in Chapter 868, Section 4 of the 1967 Laws of Minnesota, to study all aspects of the future status of the Southern School of Agriculture and to make recommendations in cooperation with the State Junior College Board and the Minnesota Higher Education Coordinating Commission. In accordance with this charge, the University of Minnesota conducted a study which concluded that the most appropriate use of the Southern School facilities would be to house an institution offering collegiate-technical programs in agriculture.

The Structure and Functions Committee of the Higher Education Coordinating Commission met at the Southern School of Agriculture in Waseca on May 24, 1968, to hear discussion regarding the proposal. The minutes of that meeting were recorded and adopted by the Commission at its regular meeting on June 28, 1968.

The following resolution, which was proposed by the Committee on Structure and Functions, and which takes into account the testimony presented at the meeting of May 24 and subsequent deliberations of this committee, was adopted by the Commission on July 26, 1968:

RESOLUTION:

WHEREAS, agriculture and agricultural manufacturing, distribution, and service are recognized as a major industry which is of primary importance to the economy of Minnesota;

WHEREAS, deficiencies have been identified in the numbers of persons being trained to meet the manpower needs of the agricultural industry in Minnesota;

WHEREAS, a demonstrated need for the type of education training in agriculture which has been provided by the Southern School of Agriculture no longer exists because of the increased emphasis on vocational agriculture in a growing proportion of the secondary schools in Minnesota;

WHEREAS, the proposal of the University of Minnesota identifies the conversion of the Southern School of Agriculture to a collegiate-technical institute specializing in courses related to the agricultural industry as the most viable of the six or more alternative uses of the facilities which were explored;

WHEREAS, that area or segment of the agricultural education to which reinforcement might be most effectively given at Waseca is that of collegiate-technical training, directed toward the preparation of semiprofessionally trained personnel;

BE IT RESOLVED THAT,

I. The Minnesota Higher Education Coordinating Commission concurs in the recommendation of the University of Minnesota proposal which states that:

> "the Southern School of Agriculture be phased out in an orderly manner and that a two-year collegiate-technical program be established, such program to focus on the general needs of agriculture and lead to the Associate in Agriculture degree."

II. Concurrence in the University recommendation by the Minnesota Higher Education Commission implies:

A. Recognition by the Commission of the need for programs of instruction directly relating to the needs for additional manpower in the agricultural industry.

B. Recognition by the Commission of the advisability of converting the present facilities of the Southern School of Agriculture for use as a technical institute to meet the need for such agricultural training.

C. Recognition by the Commission of the assurances of the University of Minnesota that any future changes or recommendations for changes in the mission of the Waseca institute or the focus of the programs which it shall offer shall be carefully reviewed in advance by the Commission.

D. Nothing in this action prejudges the future possibility of recommendations from this Commission regarding the future structure of higher education in Minnesota. It is recognized that some future recommendation may propose the assignment of the Waseca technical program and facilities to another governing board.

APPENDIX E

METROPOLITAN AREA STUDY

PROPOSED STUDY OF POST-SECONDARY EDUCATION IN THE SEVEN COUNTY METROPOLITAN AREA

The following resolution was adopted by the Commission on September 27, 1968:

> WHEREAS, nearly one-half of the Minnesota residents who attend Minnesota colleges and universities as undergraduate students now come from the seven-county metropolitan area of the Twin Cities and the number of students from this area is increasing at a rapid rate;
>
> WHEREAS, the complex conditions of the increasingly urbanized environment have many peculiar implications for post-secondary education;
>
> WHEREAS, the impact and capacities of junior colleges and area vocational schools which were recently established upon the total pattern of post-secondary education activities in the metropolitan area needs close assessment;
>
> WHEREAS, the social, economic, and cultural progress of the entire state of Minnesota is very closely related to the effectiveness with which the needs of the metropolitan area, which provides economic, social, and cultural services for the entire state of Minnesota, are met;

BE IT RESOLVED THAT,

I. The Higher Education Coordinating Commission shall propose to the 1969 Legislature that the Commission, in cooperation with the components of Minnesota post-secondary education, conduct a special study, which builds upon the Commission's general research and planning program, of the current and emerging needs for post-secondary education and alternative means for meeting needs in the seven-county metropolitan area of the Twin Cities, including an assessment of the future roles and capacities of the campuses of the University of Minnesota, the junior colleges, area vocational-technical schools, and private institutions of post-secondary education which are located in the area and of the potential need for additional public institutions to be operated by the State College Board, the State Junior College Board, the Board of Regents, or local school districts.

II. In order that the Commission will be assured of sufficient staff and consultant services for conducting the study in the scope and depth suggested above, the biennial budget request of the Commission should be increased by an amount, to be determined by the Executive Committee, which will provide adequate financing of the proposed study.[1]

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[1] The amount of $50,000 was included in the budget request of the Commission for financing the proposed study. In subsequent action, the Commission members also voted to recommend that $500,000 should be appropriated to an appropriate agency for the purpose of developing new institutions and/or expansion of existing institutions in the seven-county metropolitan area. (See page 20).

APPENDIX F

PROPOSED MINNESOTA-WISCONSIN HIGHER EDUCATION AGREEMENT

PROPOSED MINNESOTA-WISCONSIN HIGHER EDUCATION AGREEMENT

Basic elements of the Minnesota-Wisconsin Higher Education Reciprocity Agreement, as adopted by the Wisconsin Coordinating Council for Higher Education and the Minnesota Higher Education Coordinating Commission and approved by the Minnesota State Junior College Board, State College Board, and University of Minnesota Board of Regents, are as follows:

1. *Duration of the Agreement.* The plan to be implemented under the agreement would be regarded as an experimental step that will provide experience to be taken into account in formulating a permanent agreement. This agreement will become effective at the beginning of the 1969 summer sessions of the institutions involved and will be reviewed at the end of the second year.

2. *Scope of the Plan—Students.* All undergraduate students whose place of residence is within 35 miles of the Minnesota-Wisconsin border would be covered by the agreement, regardless of the program or level for which the student is enrolled or wishes to be enrolled. The sending state would determine the residency status of persons living in that state.

3. *Scope of the Plan—Institutions.* All state-controlled, higher education institution campuses, except vocational schools, which are located within 35 miles of the border would be covered by the agreement without regard for type of institution. Students attending an institution across the state line would be permitted to participate in this compact provided they attend an institution which is not more than 40 miles from their place of residency. The coordinating agency in the sending state would determine the eligibility of students with regard to the distance factor.

4. *Purpose and Nature of the Plan.* The purpose of the agreement would be to improve the availability and accessibility of higher education opportunities for those Minesota and Wisconsin residents who are eligible. This will be accomplished by granting entrance to institutions of the neighboring state according to the same terms and conditions which govern entrance to those same institutions by residents of the state which controls those institutions. A Minnesota resident who resides in the area specified under the agreement could attend any Wisconsin institution which is located within the area specified under the agreement on the same basis as any Wisconsin resident can attend that same institution. A Wisconsin resident who resides in the area specified under the agreement could attend any Minnesota institution which is located within the area specified under the agreement on the same basis as any Minnesota resident can attend that same institution. The Minnesota resident would be required to meet those admission and performance requirements which are applicable to Wisconsin residents, and the Wisconsin resident would be required to meet those admission and performance requirements which are applicable to Minnesota residents. Those charges for tuition and fees which apply to Minnesota residents would also be applied to the Wisconsin resident, and those charges for tuition and fees which apply to Wisconsin residents would be applied to the Minnesota resident under the agreement.

5. *Magnitude of the Plan.* The intent of the plan would be to provide for an approximately equal total number of students crossing the border in each direction. Under this agreement the total number of Minnesota students attending Wisconsin institutions who are granted in-state residency status would equal the total number of Wisconsin students attending Minnesota institutions. The maximum number of students to be granted residency status would be determined by the two state coordinating agencies on or before January 2nd of each year. Summer school enrollment allocations under this agreement will be determined separately from the academic year enrollments. In the event that the number of students wishing to attend institutions in the neighboring state should exceed the maximum provided under the agreement, the sending state would determine which students should be included under the arrangement. The allotment of students to each institution will be determined by the coordinating agency of the receiving state.

APPENDIX G

FACULTY SALARIES FOR PUBLIC INSTITUTIONS OF HIGHER EDUCATION IN MINNESOTA PROJECTED TO THE NATIONAL THIRD QUARTILE, 1968-1971

1968-69 FACULTY SALARIES FOR PUBLIC INSTITUTIONS OF HIGHER EDUCATION IN MINNESOTA COMPARED TO PROJECTIONS OF THE 1969-70 THIRD QUARTILE OF FACULTY SALARIES NATIONALLY[1]

System	Median Salaries in Minnesota Institutions 1968-69[2]	Salary Goal for 1969-70 Based on Projected National Third Quartile Salary Distributions[3]	Average Increase Required to Achieve Goal	Percentage Increase
University of Minnesota...........	$11,972	$16,140	$4,168	34%
State Colleges.....................	9,934	13,097	3,163	32%
State Junior Colleges..............	9,752	12,574	2,822	29%

Note: If this third quartile goal were achieved for the 1969-70 academic year, it would require an average increase of 6.7% in faculty salaries for the three systems to maintain their positions at the third quartile. This is based upon the average of the annual increases in national faculty salaries for the period 1964-65 to 1968-69.

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[1] Sources: *Salaries in Higher Education, 1967-68,* National Education Association and *Planning Report 4: Professional Personnel in Minnesota Higher Education,* Minnesota Higher Education Coordinating Commission.

[2] The base data for this column were the 1967-68 median salaries adjusted to reflect average increases in 1968-69.

[3] The University of Minnesota was compared to the category of "universities with over 10,000 students" in the national statistics; the state colleges were compared to "public four-year colleges" and the state junior colleges were compared to "public junior colleges".

APPENDIX H

LIBRARY RESOURCES

LIBRARY RESOURCES

Special appropriations totaling $3,412,500 are needed during each of the next two biennia to upgrade the libraries of the state colleges and state junior colleges to the minimum standards recommended by the Committee on Standards of the American Library Association. These appropriations are needed in addition to normal support provided for libraries from current operating expenditures. The Commission recommends that during each of two biennia, special appropriations in the amounts of $2,850,000 and $562,500 should be made to the state colleges and the state junior colleges, respectively. A detailed explanation of the standards involved and the procedures followed to support this recommendation appears in "Standards for College Libraries," *College and Research Libraries*, July 1959, pp. 274-280, and in "Standards for Junior College Libraries," *College and Research Libraries*, May 1960, pp. 200-206.

An important matter of judgment should be noted with regard to the recommendation of a goal for the state college libraries. *At this time,* Commission research indicates that a goal of 300,000 volumes is appropriate. Standards suggest that the correlation between the growth of the student enrollment and the library collection may decelerate at this level. Number of volumes per student is at best a crude measure. Other factors should be given greater consideration, for example: (1) the extent and nature of the curriculum, (2) the number and character of the graduate programs, (3) the methods of instruction, (4) the relative size of the undergraduate and the graduate student enrollments, and (5) the need of the faculty for advanced research materials which cannot be met conveniently by the interlibrary loan provisions of research libraries in the area. These factors indicate that a goal of 300,000 volumes appears to be reasonable for Mankato State College and St. Cloud State College. If the graduate programs of these institutions are expanded rapidly, the rate of library growth will need to be increased accordingly. These recommendations do not, of course, suggest maximum levels for the library of any institution. Libraries by their very nature, must grow in order to provide the essential services for which they are established. However, rate of growth must be related to the objective of the institution.

LIBRARY RESOURCES
STATE COLLEGE SYSTEM

Institution	Fall 1968 F.T.E. Enrollment[1]	Volumes[2]	Deficiency[3]
Bemidji	4,388	83,544	146,456
Mankato	10,350	212,659	87,341
Moorhead	4,866	104,354	155,646
St. Cloud	8,352	209,820	90,180
Southwest[4]	—	—	[4]
Winona	3,482	81,964	108,036

600,000 × $9.47[5] = $5,682,000 ÷ 2 = $2,850,000 (per biennium)

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[1] Fifteen credit hours per F.T.E.

[2] As of June 30, 1968.

[3] Number of volumes needed to bring holdings up to the minimum standards recommended by the Committee on Standards of the American Library Association. These standards suggest the following: 50,000 volumes as a minimum; 10,000 volumes additional for each 200 F.T.E. students over the first 600 F.T.E. students. For the purpose of calculating the present deficiency 300,000 volumes was considered as the goal at this time if the institution's enrollment justified that figure or a higher one. Units of less than 200 F.T.E. students were rounded to the next lower unit.

[4] Not included because this institution was recently opened.

[5] This figure represents the average purchase price of the 106,006 volumes acquired by the State Colleges during the 1967-68 fiscal year. It does not include cataloging, shelving and staff expenses involved in processing the books.

LIBRARY RESOURCES
STATE JUNIOR COLLEGES

Institution	Fall 1968 F.T.E. Enrollment[1]	Volumes[2]	Deficiency[3]
Anoka-Ramsey	1,612	8,570	16,430
Austin	962	11,176	8,824
Brainerd	487	6,599	13,401
Fergus Falls	538	11,900	8,100
Hibbing	783	15,968	4,032
Itasca	569	4,093	15,907[4]
Lakewood	1,065	[4]	[4]
Mesabi	761	24,937	0
Metropolitan	880	4,240	15,760
Normandale[4]	[4]	[4]	[4]
North Hennepin	1,255	5,226	14,774
Northland	318	4,560	15,440
Rainy River[4]	[4]	[4]	[4]
Rochester	1,805	17,679	7,321
Vermilion	258	7,124	12,876
Willmar	657	7,262	12,738
Worthington	664	13,449	6,551

150,000 × $7.50[5] = $1,125,000 ÷ 2 = $562,500 (per biennium)

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[1] Fifteen credit hours per F.T.E.

[2] As of June 30, 1968.

[3] Number of volumes needed to bring holdings up to the minimum standards recommended by the Committee on Standards of the American Library Association. These standards suggest the following: 20,000 volumes minimum; 5,000 volumes additional per 500 F.T.E. students over 1,000, (less than 500 F.T.E. students not included.)

[4] Not included because this institution was recently opened.

[5] This figure represents the estimated cost per volume for purchase price only. It does not include cataloging, shelving and staff expenses involved in processing the books.